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(30)Priority

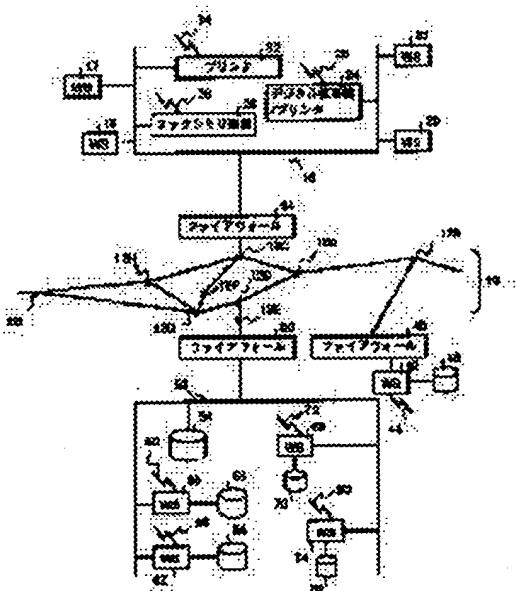
Priority number : 98 192583 Priority date : 17.11.1998 Priority country : US

(54) METHOD FOR PROCESSING AND TRANSMITTING MESSAGE, AND SYSTEM FOR PROCESSING AND TRANSMITTING MESSAGE

(57)Abstract:

PROBLEM TO BE SOLVED: To realize communication using an electronic mail message.

SOLUTION: Information transmitted to or from machines (for example, digital copying machine/printer 24) connected to a network is transmitted by using an electronic mail. The e-mail message may be the one transmitted to users. To execute a proper diagnosis or control function, the users can execute a file attached to a received e-mail message. The received e-mail message may be the one containing a code to automatically execute a desired function, and it is not necessarily required for the users to manually execute an arbitrary action for starting a proper processing. The e-mail message may be the one transmitted from a computer connected with devices monitored and controlled.



LEGAL STATUS

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[Date of final disposal for application]

[Patent number]

[Date of registration]

[Number of appeal against examiner's decision of rejection]

[Date of requesting appeal against examiner's decision of rejection]

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DESCRIPTION OF DRAWINGS

[Brief Description of the Drawings]

[Drawing 1] It is the explanatory view which is connected to the network of a computer and a database through the Internet and in which showing three business office machines on a network.

[Drawing 2] It is the block diagram showing the component of a digital process copying machine/printer.

[Drawing 3] It is the block diagram showing the electronic component of the digital process copying machine/printer shown in **drawing 2**.

[Drawing 4] It is the explanatory view showing the detail of a multiport communication interface shown in **drawing 3**.

[Drawing 5] It is the explanatory view showing the alternative-system configuration with which a business office device is connected to the computer connected to the network, and the device further connected to the direct network.

[Drawing 6] It is the block diagram showing how to perform the exchange of a device and information, using an electronic mail.

[Drawing 7] It is the block diagram showing the another approach of the communication using the electronic mail at the time of making it the computer connected to the device function as a message transfer agent.

[Drawing 8] It is the explanatory view showing the alternate method which transmits a message through the Internet.

[Drawing 9] In order to connect with a device and to exchange an electronic mail message, it is the block diagram showing an example of an usable computer.

[Drawing 10] It is the block diagram showing the module, the object, and information which are included in a computer.

[Drawing 11] It is the explanatory view showing the information on an usable device driver by this invention.

[Drawing 12] It is the explanatory view showing an example of an electronic mail message.

[Drawing 13] It is the explanatory view showing the executable file which can be attached to the electronic mail message shown in **drawing 12**.

[Drawing 14] It is the explanatory view showing the screen display of an electronic mail message.

[Drawing 15] It is the flow chart which shows how to receive the electronic mail message by the gestalt of the 1st operation concerning this invention.

[Drawing 16] It is the flow chart which shows how to receive the electronic mail message by the gestalt of the 2nd operation concerning this invention.

[Drawing 17] It is the flow chart by the gestalt of starting-this invention operation which shows how to transmit an electronic mail message.

[Drawing 18] It is the flow chart which shows the alternative-approach of transmitting the information by the gestalt of the 2nd operation concerning this invention.

[Drawing 19] It is the explanatory view showing DS including device information.

[Drawing 20] It is the explanatory view showing the log of the trouble information produced with various business office devices.

[Drawing 21] It is the explanatory view showing the inquiry result of the information about a specific printer.

[Drawing 22] It is the explanatory view showing an example of the monthly report generated in this invention.

[Description of Notations]

10 Internet

12A-12I Computer (router)

14, 40, 50,250,258,270,280 Fire wall

16 52,274,404 Network

17-22, 42, 56, 62, 68, 74 Workstation

24 Digital Process Copying Machine/Printer

26, 30, 34, 44, 60, 66, 72, 80,168 The telephone line, ISD N circuit, cable circuit

28 Facsimile Apparatus

32,262 Printer

46, 54, 58, 64, 70, 76 Disk

166 Multiport Communication Interface

168A, 402 Telephone line

168B ISDN circuit

170 LAN

220 Centronics Interface

221 Cable Modem Unit

222 SCSI Interface

224 Telephone Interface

226 ISDN Interface

228 RS-232 Interface

230 LAN Interface

252,260,284 Intranet

254 Service Machine

256 Database

264 Internet Service Provider

266, 272, 276,282,301,360 Computer

268,278 Business office device

286 Copying Machine

300 Device

302,318 User terminal

304,316 User agent

306 Queue

308,312 Message transfer agent (MTA)

310 TCP Connection

314 User Mail Box

320 Transmitting-Side Host

322, 324, 326,336,338,340 Local MTA

328,332 Relay MTA

330,334 Mail queue

342 Receiving-Side Host

406 Communication Link Controller

430 Mail Server

432 Electronic Mail Processor

434 Registry

436 Reception Mail Information
438 Transmitting Mail Information
440 Device Driver
442 Device
452 Remote Control and Diagnostic Module
454 Device Functional Support Module
456 Device Data
460 Attached File
470 Display
580 DS
582-610 Field
650 Log
669 Data
670 Monthly Use Report

[Translation done.]

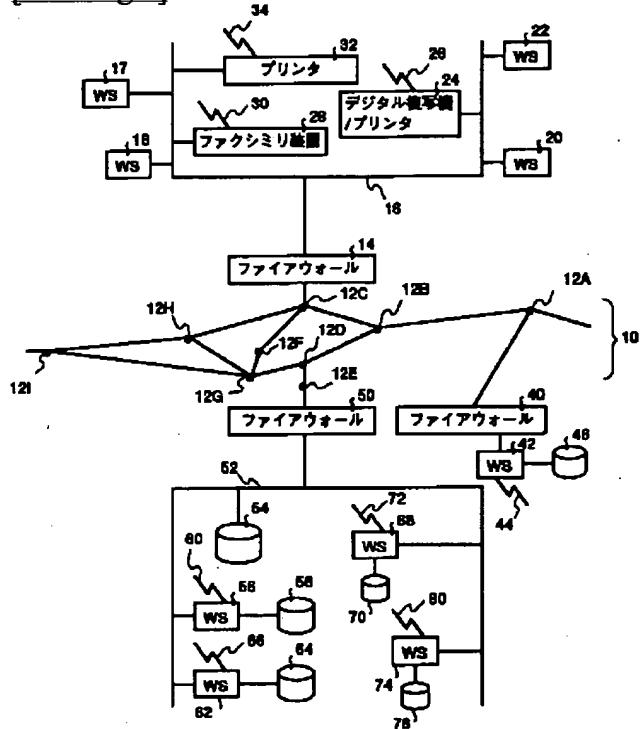
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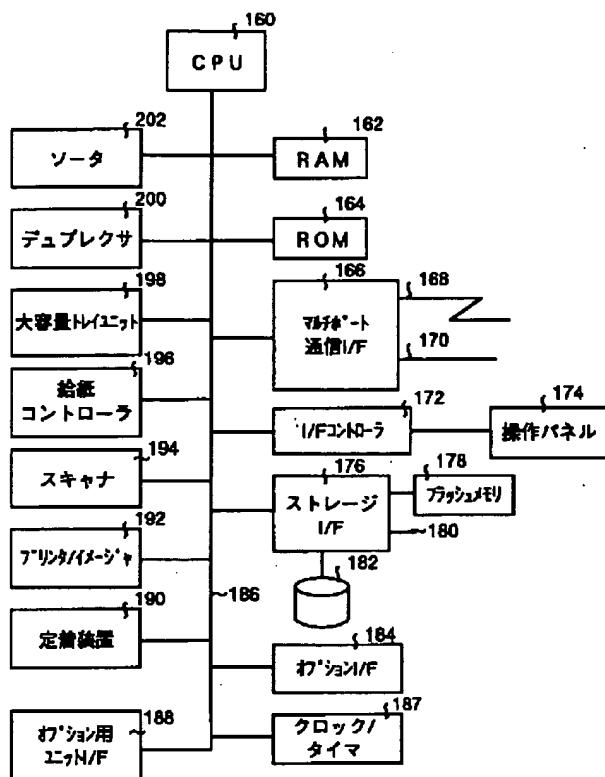
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DRAWINGS

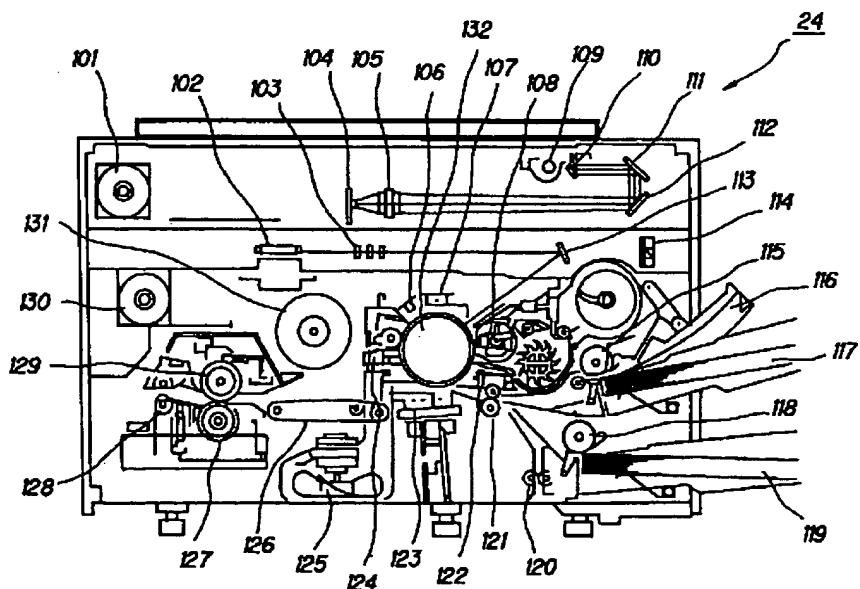
[Drawing 1]



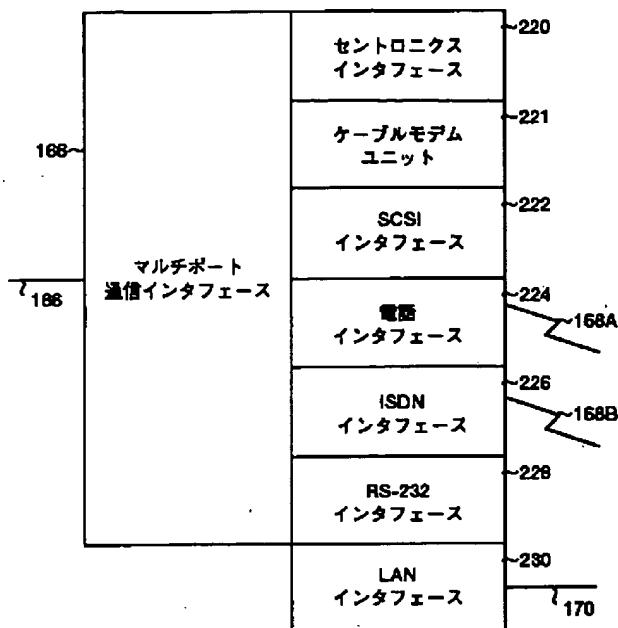
[Drawing 3]



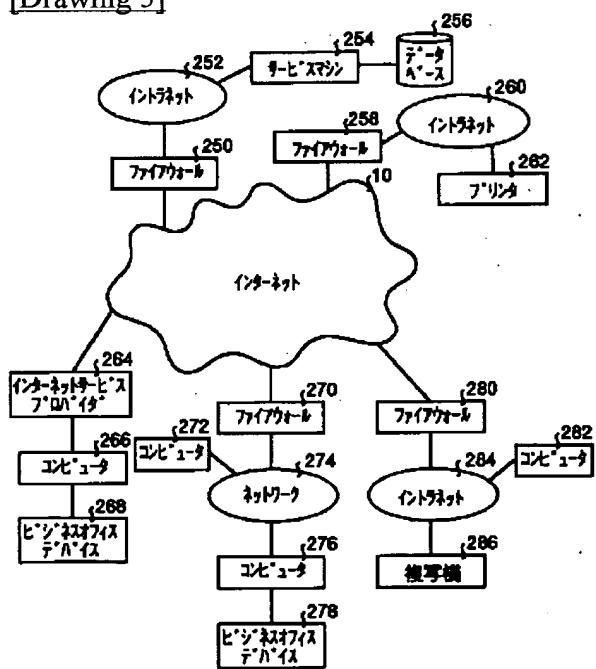
[Drawing 2]



[Drawing 4]

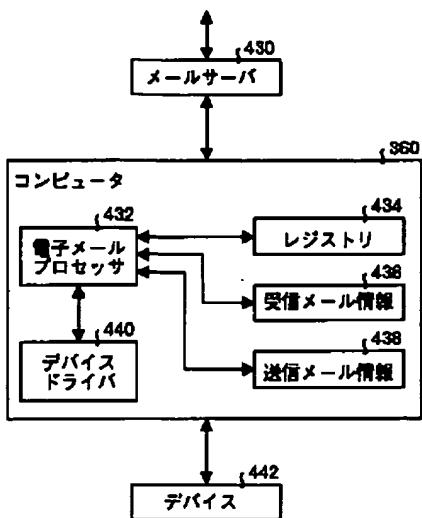


[Drawing 5]

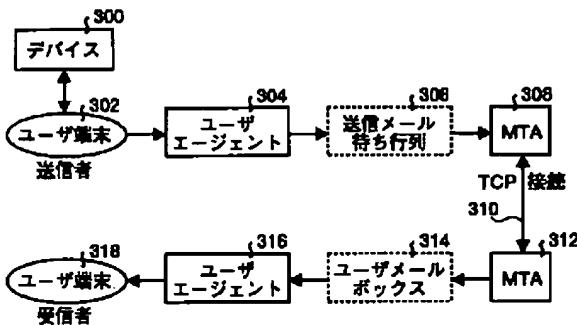


[Drawing 10]

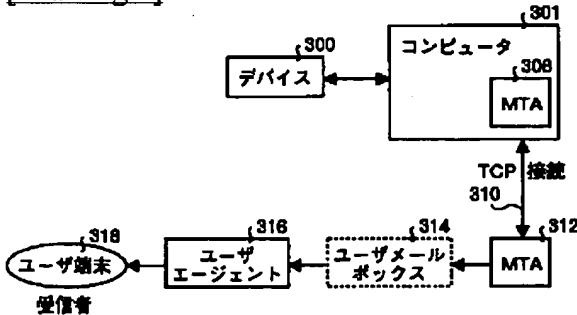
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[Drawing 6]

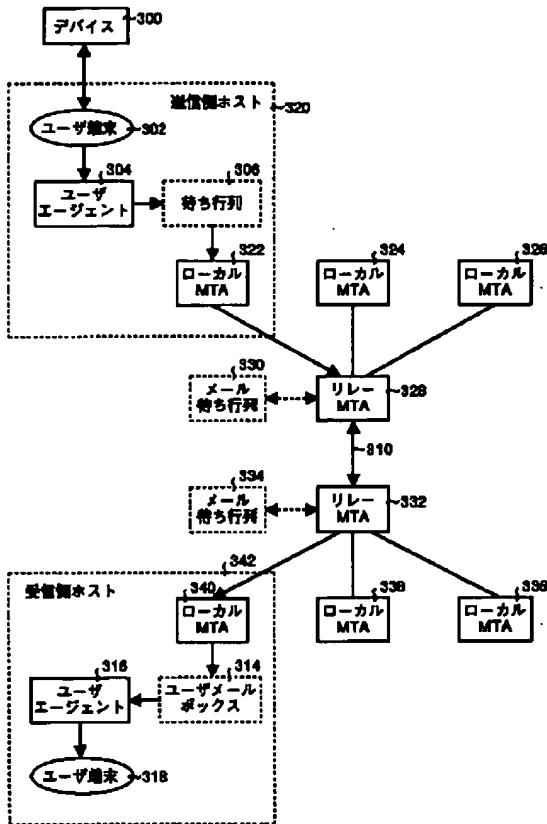


[Drawing 7]

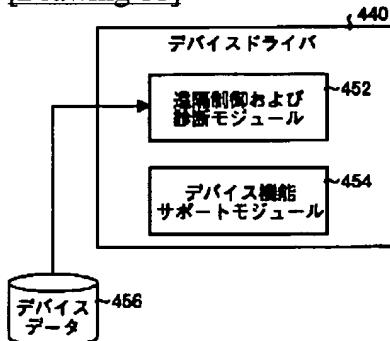


[Drawing 8]

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[Drawing 11]

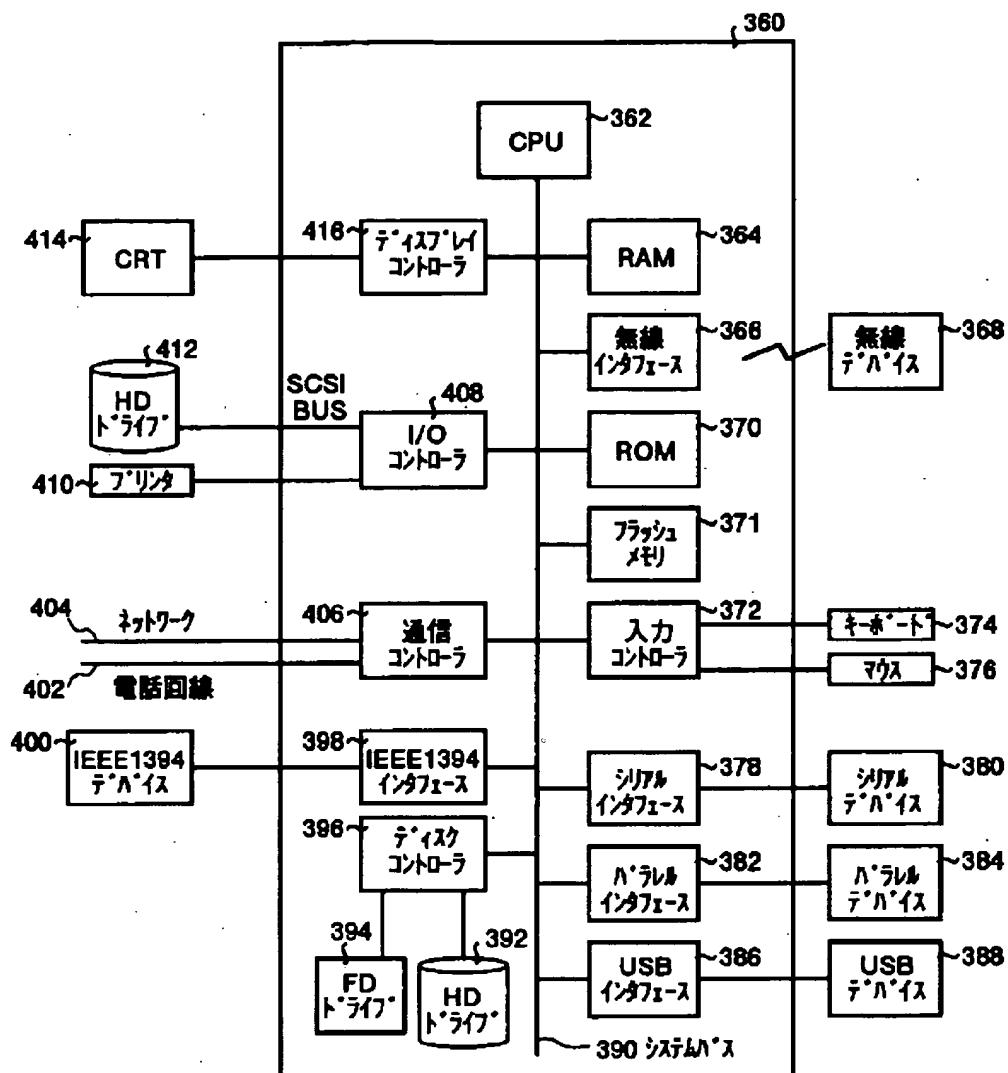


[Drawing 12]

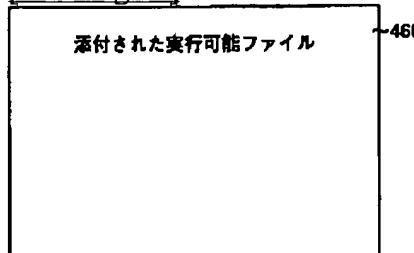
1. From: ently@domain_name.com Mon Oct 12 7:20:50 1998
2. Date: Mon, 12 Oct 1998 10:18:19 -0400
3. From: "Service Center" <ently@domain_name.com>
4. To: machine@office.com
5. Subject: Printer Maintenance & Testing
6. Mime-Version: 1.0
7. Content-
- 8.
9. Dear Customer,
10. This message has originated from your printer company.
- 11.
12. We would like to test and analyze your printer Please
13. double-click on the attached executable file which will
14. allow us to test and analyze your printer.
- 15.
16. Thanks you for your cooperation.
- 17.
18. Signed, Company X

[Drawing 9]

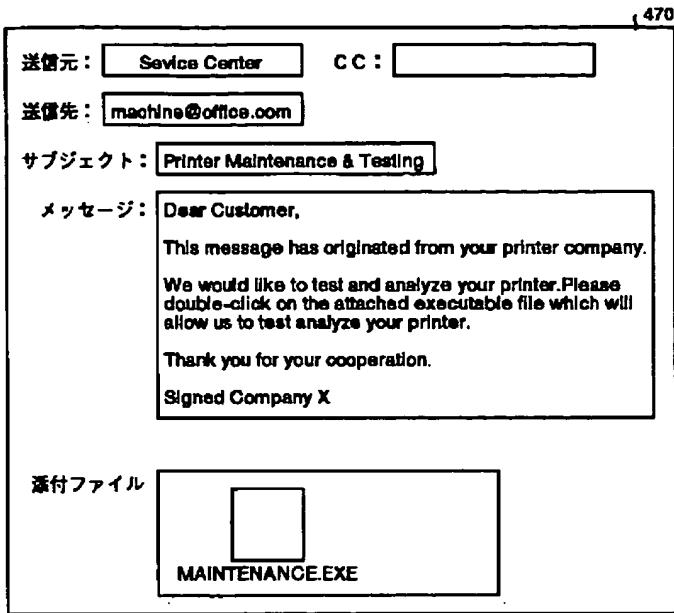
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[Drawing 13]

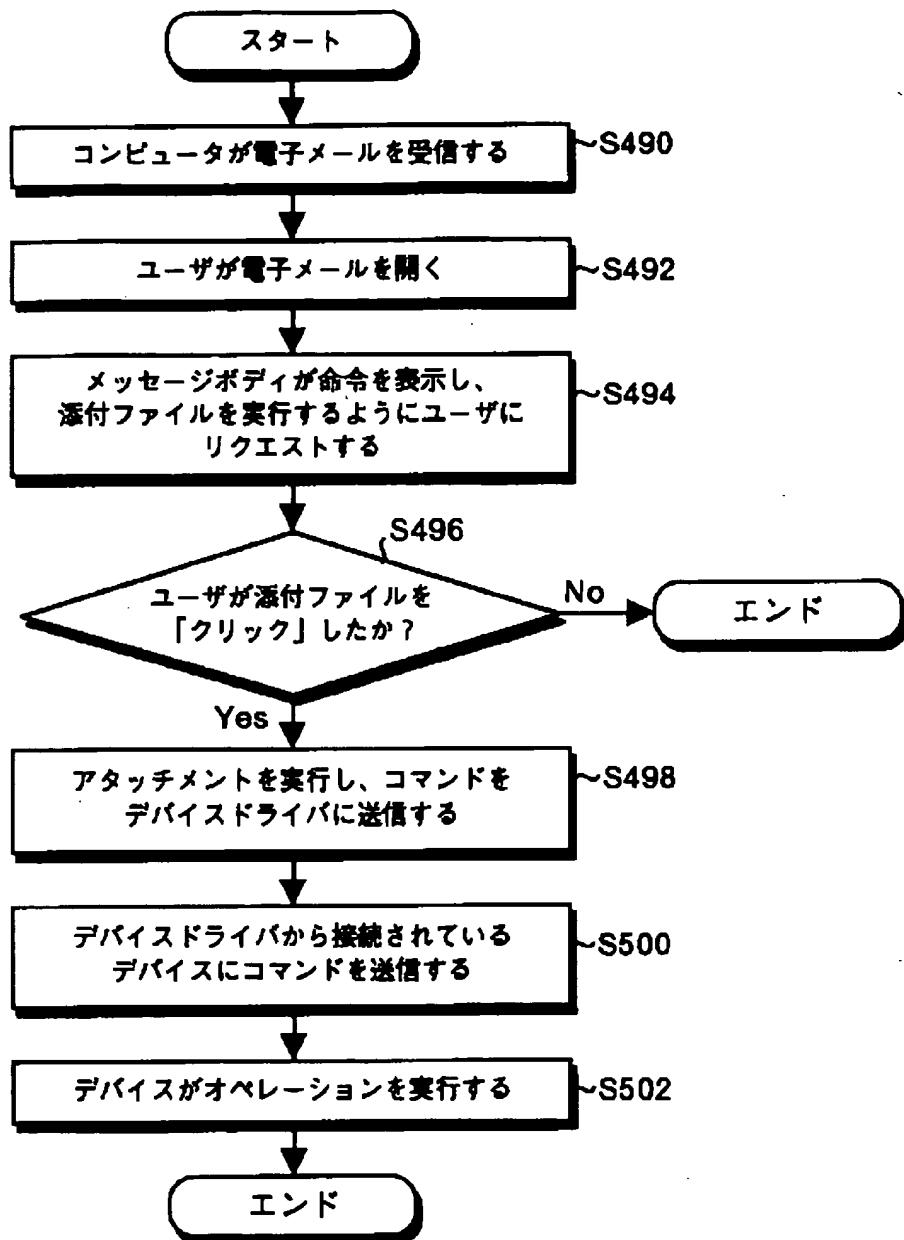


[Drawing 14]



[Drawing 15]

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[Drawing 20]

Date 1 Jan 2001 Time 0:00 to 1:00 Japan time			
Machine	Location	Problem	Notified
XXA1	CA, USA	Doc.Feeder Jam Freq. Trouble	IKON
XXYB2	UK	Tray Paper In Jam Too Many In Past one week	XXYZ
YYZZ3	Tokyo, Japan	Duplex Jam Last 10 tries	ABCD
		⋮	⋮

[Drawing 21]

669

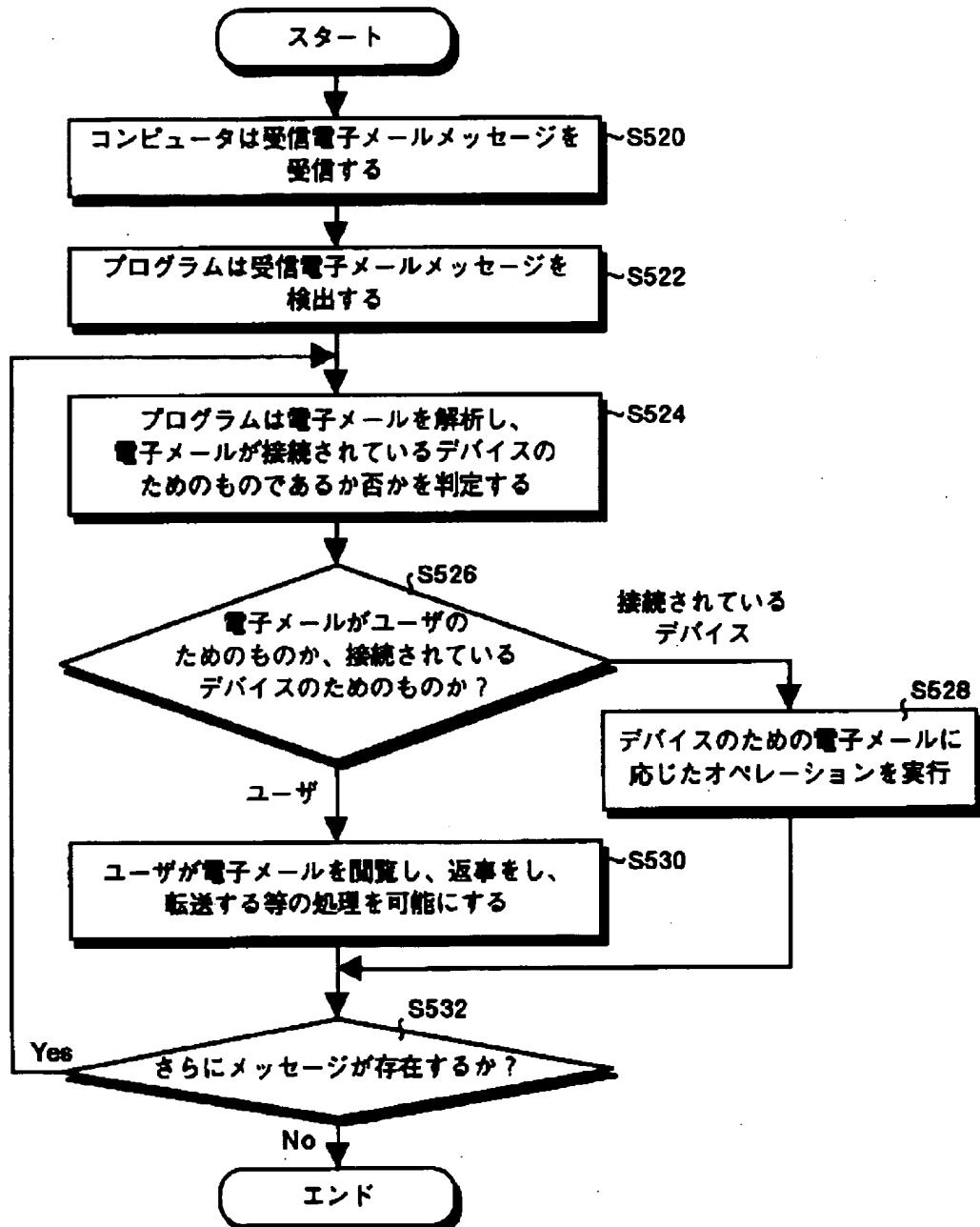
Data on FT8860 In USA, YR 1999	
Total Installation	10,000,000
With Sorter	6,000,000
Average Copy Job per machine annually	20,000
Average use of Sorter	60%

[Drawing 22]

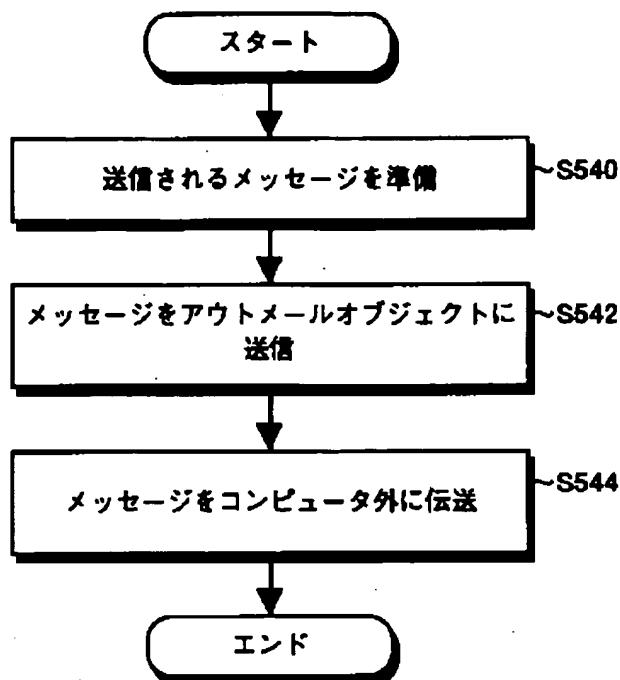
670

March 2000 Monthly Usage Report	
Summary Report	
Machines	Copies
Printer 1	10,000
Printer 2	50,000
Printer 3	500
Printer 4	1,000
Copier 1	60,000
Copier 2	15,000
Copier 3	10,900

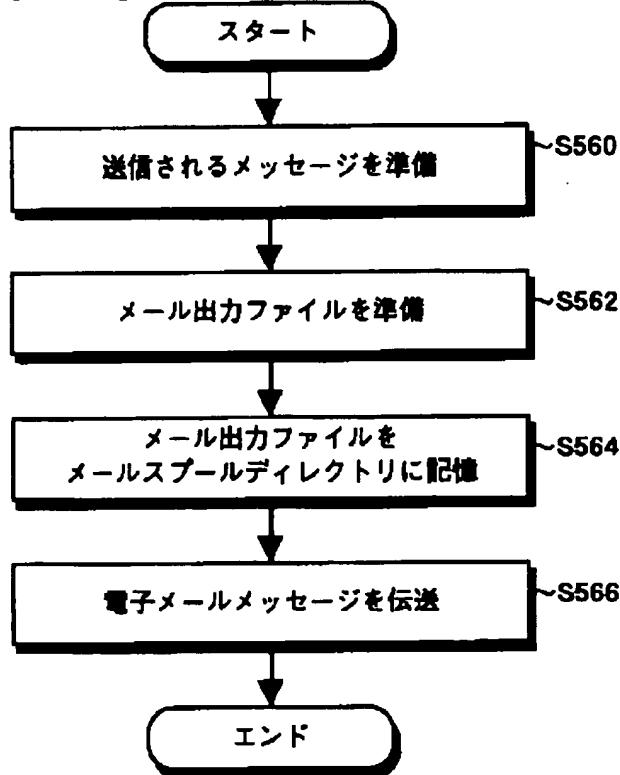
[Drawing 16]



[Drawing 17]



[Drawing 18]



[Drawing 19]

580

デバイス情報	
582	デバイス ID
584	デバイスマodel
586	デバイスタイプ
588	デバイスの機能
590	ジャムの合計数
592	ジョブの合計数
594	ページの合計数
596	カラーページの合計数
598	ジョブ毎の平均ページ数
600	最後のレポート以降のジョブ数
602	最後のレポート以降のページ数
604	最後のレポート以降のカラーページ数
606	最後のレポート以降のジャム数
608	タイムスタンプを含む、過去20のジョブの情報
610	タイムスタンプを含む過去20の異常ジョブの情報

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DETAILED DESCRIPTION

[Detailed Description of the Invention]**[0001]**

[Cross-reference of related application] This application The connectionless mode in which it has United States patent application 08 / 883,492 "distribution monitoring, and two-way communication mode for which it applied on June 26, 1997 is used. By United States patent application 08 / 820,633 "user for whom it applied on the approach of diagnosing and controlling a machine and system", and March 19, 1997 United States patent application 08 / 733,134 "connectionless mode communication link for which it applied on approach and system" which diagnoses a business office device based on the set-up operating parameter, and October 16, 1996 are used. A machine A diagnosis And the approach of controlling And the approach for control of the machine which used the communication link format of United States patent application 08 / 624,228 (current U.S. Pat. No. 5,818,603) "plurality for which it applied on system" and March 29, 1996, and the communication link with the machine And United States patent application 08 / 463,002 (current U.S. Pat. No. 5,819,110) "connection mode communication link, and the connectionless mode communication link for which it applied on system" and June 5, 1995 are used. The United States patent applications 08/738,659, 08 / 738,461 "connection mode communication link, and the connectionless mode communication link for which it applied on October 30, 1996, respectively as division application of the approach of diagnosing and controlling a machine and system" are used. By continuation application of the approach of diagnosing and controlling a machine, system", and the United States patent applications 07/549,278 (finishing [abandonment]) for which it applied on July 6, 1990 By continuation application of the United States patent applications 07/902,462 (finishing [abandonment]) for which it applied on June 19, 1992 The United States patent applications 08/282 for which it applied on July 28, 1994, 168 The United States patent applications 08/426,679 for which it applied on April 24, 1995 which is continuation application of "the approach for control of a business office device and the communication link with the business office device, and equipment" (Current U.S. Pat. No. 5,412,779) (Current U.S. Pat. No. 5,537,554) By continuation application of "the approach for control of a business office device and the communication link with the business office device, and equipment" By continuation application of the United States patent applications 08/473,780 (current U.S. Pat. No. 5,544,289) "the approach for control of a business office device and the communication link with the business office device, and equipment" for which it applied on June 6, 1995 Control of United States patent application 08 / 698,068 (current U.S. Pat. No. 5,649,120) "business office device for which it applied on August 15, 1996 which is continuation application of the United States patent applications 08/562,192 for which it applied on November 22, 1995 By and the approach for the communication link with the business office device and continuation application of equipment" It relates to the United States patent applications 08/852,413 (current U.S. Pat. No. 5,774,678) "the approach for control of a business office device and the communication link with the business office device, and equipment" for which it applied on May 7, 1997. Each indication is used here as reference.

[0002]

[Field of the Invention] This invention relates to the technique (namely, the approach and system for communicating with the device connected to the computer using the electronic mail message) which uses an electronic mail message, in order to exchange the device and information which are generally connected to the computer. more -- a detail -- this invention -- the device -- or in order to enable it to transmit suitable information from the device, it is related with the processing performed within a computer.

[0003] Moreover, this invention relates to the approach and system by which the information which shows the device connected judges whether it is ***** to an electronic mail message while receiving an electronic mail message by computer. Furthermore, an electronic mail is used for this invention as a transmission device, and it relates to the technique of transmitting the information generated with the device connected to the computer.

[0004]

[Description of the Prior Art] An electronic mail will become very popular in order to exchange information among people, and the user is provided with the profits that it is cheap and convenient. Moreover, a lot of information and protocols are used in order to explain how the electronic mail containing the Internet electronic mail functions, and in order that many commercial programs may realize an electronic mail function, they are used.

[0005]

[Problem(s) to be Solved by the Invention] However, although many programs designed specially are marketed so that an electronic mail message may be exchanged by human beings, the electronic mail program of marketing for exchanging the information which meant distributing in order to control the information or the machine generated by the machine (machine) does not exist.

[0006] This invention is made in view of the above, and it aims at offering the approach, system, and computer program product which realize communication by using an electronic mail message.

[0007] Moreover, it aims at offering the approach, system, and computer program product which this invention is made in view of the above, and a message is received from the device connected to the computer which receives an electronic mail message, and are processed with the device, and are transmitted to the device.

[0008] Furthermore, this invention is made in view of the above, and it aims at offering the approach, system, and computer program product which transmit the information generated with the device through the computer.

[0009]

[Means for Solving the Problem] These and other purposes will be attained by the approach, system, and computer program product concerning this invention. In this invention, an electronic mail message is received by the computer, and when it judges that an electronic mail message includes the information on the device connected to the computer, communication is transmitted to a device from a computer. In the gestalt of operation of this invention, human being may read an electronic mail and you may decide to judge with it being a thing for the device by which the electronic mail is connected to the computer.

[0010] And a user can perform action by which information is transmitted to a device from a computer by the manual. Action which performs the file attached to the electronic mail message may be included, and a device driver enables it, as for such action by the user, to transmit suitable information to the device connected. By the way, a device is a device of the class of arbitration containing a business office device (business office device), a digital camera, or other electron devices. For example, that for which to carry out the monitor of the device for controlling while carrying out the monitor of the utility meter remotely etc. remotely, and/or to be controlled is needed is contained in a device.

[0011] As another approach for transmitting to the device to which the information on an electronic mail message is connected, it is also possible without what kind of kind of user's invention to make it judge with it being the thing which analyzes automatically the electronic mail which the computer received and by which information should be transmitted to a device automatically. The program which carries out the monitor of the received electronic mail may be made to execute within a computer, and the electronic mail message which received by detecting the code in a message may judge that this program

is a thing for a device. Such a function is realizable by discovering the code which carries out the monitor of the subject of a message, or exists in the body of a message.

[0012] Moreover, this invention relates to transmission of the transmitted electronic mail message (outgoing E-mail message) including the information from the device connected from a computer. The information from a device is transmitted to the device driver of a computer, and may be made to be transmitted to MAPI (Messaging Application Programming Interface) of a computer after that. When you wish, you may decide to transmit the electronic mail message from a device by establishing TCP (Transmission Control Protocol) connection between the computers which achieve the function of a message transfer agent (message transfer agent).

[0013] As the further alternative, one or more files are created within a computer, and these files may be made to be written in the e-mail spool directory (mail spool directory) of a computer. When a computer detects existence of one or more files in an e-mail spool directory, an electronic mail message is transmitted from a computer.

[0014] That is, the message-processing approach of claim 1 includes the judgment process which judges whether it is a thing for the device by which said electronic mail message which received is connected to said computer to be the 1st receiving process which receives an electronic mail message by computer, and the 1st transmitting process which transmits communication to said device from said computer when judged with said electronic mail message being a thing for said device at said judgment process.

[0015] Moreover, the message-processing approach of claim 2 judges whether it is that to which whether said electronic mail message which said judgment process's received being a thing for said device, and said electronic mail message which received make the user of said computer the last addressee in the message-processing approach according to claim 1.

[0016] Moreover, the message-processing approach of claim 3 is set to the message-processing approach according to claim 1. Furthermore, the display process which displays the message which shows said user that said electronic mail message includes the information transmitted to said device is included after said 1st receiving process. It judges whether said electronic mail message which the user to whom said judgment process read said displayed message received is a thing for said device.

[0017] Moreover, the message-processing approach of claim 4 includes the 1st activation process which executes further the command which performs said 1st transmitting process in the message-processing approach according to claim 3.

[0018] Moreover, the message-processing approach of claim 5 performs the program code of a file with which said 1st activation process is attached to said electronic mail message by manual action by said user in the message-processing approach according to claim 4.

[0019] Moreover, in the message-processing approach according to claim 5, the message-processing approach of claim 6 performs the program code of said file, when said 1st activation process carries out the pointing of the object which expresses said file using a pointing device and a graphical user interface.

[0020] Moreover, the message-processing approach of claim 7 performs said program code by carrying out the depression of the carbon button in the message-processing approach according to claim 6, said 1st activation process carrying out the pointing of said object showing said file.

[0021] Moreover, in the message-processing approach according to claim 1, as for the message-processing approach of claim 8, said 1st receiving process receives an Internet electronic mail message.

[0022] Moreover, in the message-processing approach according to claim 4, the message-processing approach of claim 9 is performed, when information is transmitted to the device driver to which said 1st activation process operates within said computer and said 1st transmitting process uses said device driver.

[0023] Moreover, the message-processing approach of claim 10 includes further the 2nd receiving process which receives the communication transmitted from said computer with said device, and the 2nd transmitting process which transmits a parameter to said computer from said device according to the communication which received with said device in the message-processing approach according to claim 1.

[0024] Moreover, the message-processing approach of claim 11 includes further the 2nd activation process which performs mechanical action with said device in the message-processing approach according to claim 10 according to the communication received with said device.

[0025] Moreover, in the message-processing approach according to claim 1, the message-processing approach of claim 12 judges automatically that said electronic mail message is a thing for said device, when said judgment process detects the description of said electronic mail message.

[0026] Moreover, in the message-processing approach according to claim 12, the message-processing approach of claim 13 judges automatically that said electronic mail message is a thing for said device, when said judgment process detects the code in said electronic mail message.

[0027] Moreover, in the message-processing approach according to claim 13, the message-processing approach of claim 14 judges automatically that said electronic mail message is a thing for said device, when said judgment process detects said code in the subject of said electronic mail message.

[0028] Moreover, in the message-processing approach according to claim 13, the message-processing approach of claim 15 judges automatically that said electronic mail message is a thing for said device, when said judgment process detects said code in the body of said electronic mail message.

[0029] Moreover, in the message-processing approach according to claim 12, as for the message-processing approach of claim 16, said judgment process is performed according to reception of the Inca MINGU electronic mail message.

[0030] Moreover, the message-processing approach of claim 17 is set to the message-processing approach according to claim 16, and said judgment process is performed according to reception of the Inca MINGU electronic mail message detected by carrying out the monitor of the existence of the file memorized in the predetermined storage location in memory.

[0031] Moreover, the message-sending approach of claim 18 includes the 1st information transmitting process which transmits information to a computer from a device, the 1st down stream processing which processes said information by the device driver in said computer, and the message-sending process to which said computer transmits the electronic mail message corresponding to said information.

[0032] Moreover, the message-sending approach of claim 19 transmits further the electronic mail message corresponding to said information which said message-sending process processed by said MAPI in the message-sending approach according to claim 18 including the 2nd information transmitting process which transmits said information to MAPI (messaging application programming interface) of said computer from said device driver, and the 2nd down stream processing which processes said information by said MAPI.

[0033] Moreover, in the message-sending approach according to claim 18, said computer is a message transfer agent, as for the message-sending approach of claim 20, said 1st information transmitting process transmits said information to said computer which is said message transfer agent directly from said device, and said message-sending process transmits said electronic mail message from said computer which is said message transfer agent using TCP connection.

[0034] Moreover, in the message-sending approach according to claim 18, said message-sending process uses said file memorized by said e-mail spool directory including the creation process at which said 1st down stream processing creates the file corresponding to said information, and the write-in process which writes said file in the e-mail spool directory of said computer, and the message-sending approach of claim 21 transmits the electronic mail message corresponding to said information.

[0035] Moreover, in the message-sending approach according to claim 21, the multiple files to which said creation process and the write-in process created and created multiple files are written in said e-mail spool directory, said message-sending process uses each of the multiple files memorized by said e-mail spool directory, and the message-sending approach of claim 22 transmits said electronic mail message.

[0036] Moreover, the Message Handling system of claim 23 The 1st receiving means for connecting with a computer and receiving an electronic mail message, The judgment means for judging whether it is a thing for the device by which said received electronic mail message is connected to said computer, When judged with said electronic mail message being a thing for said device with said judgment means, it has the 1st transmitting means for transmitting communication to said device from said computer.

[0037] Moreover, the Message Handling system of claim 24 judges whether it is that to which whether said electronic mail message by which said judgment means' was received being a thing for said device, and said received electronic mail message make the user of said computer the last addressee in a Message Handling system according to claim 23.

[0038] Moreover, the Message Handling system of claim 25 is equipped with the display means for displaying the message which shows said user including further the information for which said electronic mail message is transmitted to said device in a Message Handling system according to claim 23, and judges whether said electronic mail message by which the user to whom said judgment means read said displayed message was received is a thing for said device.

[0039] Moreover, the Message Handling system of claim 26 is equipped with the 1st activation means for executing further the command which operates said 1st transmitting means in a Message Handling system according to claim 25.

[0040] Moreover, the Message Handling system of claim 27 performs the program code of a file with which said 1st activation means is attached to said electronic mail message by manual action by said user in a Message Handling system according to claim 26.

[0041] Moreover, in a Message Handling system according to claim 27, the Message Handling system of claim 28 performs the program code of said file, when said 1st activation means carries out the pointing of the object which expresses said file using a pointing device and a graphical user interface.

[0042] Moreover, the Message Handling system of claim 29 performs said program code by carrying out the depression of the carbon button in a Message Handling system according to claim 28, said 1st activation means carrying out the pointing of the object showing said file.

[0043] Moreover, in a Message Handling system according to claim 23, as for the Message Handling system of claim 30, said 1st receiving means receives an Internet electronic mail message.

[0044] Moreover, in a Message Handling system according to claim 26, said 1st activation means transmits information to the device driver which operates within said computer, and the Message Handling system of claim 31 operates, when said 1st transmitting means uses said device driver.

[0045] Moreover, the Message Handling system of claim 32 is equipped with the 2nd receiving means for said device to receive further the communication transmitted from said computer, and the 2nd transmitting means for transmitting a parameter to said computer from said device according to the communication received with said device in a Message Handling system according to claim 23.

[0046] Moreover, the Message Handling system of claim 33 is further equipped with the 2nd activation means for performing mechanical action with said device in a Message Handling system according to claim 32 according to the communication received with said device.

[0047] Moreover, in a Message Handling system according to claim 23, the Message Handling system of claim 34 judges automatically that said electronic mail message is a thing for said device, when said judgment means detects the description of said electronic mail message.

[0048] Moreover, in a Message Handling system according to claim 34, the Message Handling system of claim 35 judges automatically that said electronic mail message is a thing for said device, when said judgment means detects the code in said electronic mail message.

[0049] Moreover, in a Message Handling system according to claim 35, the Message Handling system of claim 36 judges automatically that said electronic mail message is a thing for said device, when said judgment means detects said code in the subject of said electronic mail message.

[0050] Moreover, in a Message Handling system according to claim 35, the Message Handling system of claim 37 judges automatically that said electronic mail message is a thing for said device, when said judgment means detects said code in the body of said electronic mail message.

[0051] Moreover, in a Message Handling system according to claim 35, as for the Message Handling system of claim 38, said judgment means operates according to reception of the Inca MINGU electronic mail message.

[0052] Moreover, the Message Handling system of claim 39 is set to a Message Handling system according to claim 38, and operates according to reception of the Inca MINGU electronic mail message detected when said judgment means carries out the monitor of the existence of the file memorized in the

predetermined storage location in memory.

[0053] Moreover, the message-sending system of claim 40 is equipped with the 1st information transmitting means for transmitting information to a computer from a device, the 1st processing means for processing said information by the device driver in said computer, and the message-sending means for transmitting the electronic mail message which supports said information by said computer.

[0054] Moreover, the message-sending system of claim 41 is further equipped with the 2nd information transmitting means for transmitting said information to MAPI (messaging application programming interface) of said computer from said device driver, and the 2nd processing means for processing said information by said MAPI in a message-sending system according to claim 40, and said message-sending means transmits the electronic mail message corresponding to said information processed by said MAPI.

[0055] Moreover, in a message-sending system according to claim 40, said computer is a message transfer agent, as for the message-sending system of claim 42, said 1st information transmitting means transmits said information to said computer which is said message transfer agent directly from said device, and said message-sending means transmits said electronic mail message from said computer which is said message transfer agent using TCP connection.

[0056] Moreover, in a message-sending system according to claim 40, it has a creation means for said 1st processing means to create the file corresponding to said information, and a write-in means for writing said file in the e-mail spool directory of said computer, said message-sending means uses said file memorized by said e-mail spool directory, and the message-sending system of claim 43 transmits the electronic mail message corresponding to said information.

[0057] Furthermore, in a message-sending system according to claim 43, the multiple files to which said creation means and the write-in means created and created multiple files are written in said e-mail spool directory, said message-sending means uses each of the multiple files memorized by said e-mail spool directory, and the message-sending system of claim 44 transmits said electronic mail message.

[0058]

[Embodiment of the Invention] Although the gestalt of operation of this invention will be explained referring to a drawing, in some drawings, the sign identically same about a corresponding part will be attached.

[0059] Drawing 1 is drawing showing the computer which carries out the monitor of the operation of various machines and a machine, diagnoses it, and is controlled further. In drawing 1, the computer workstations 17, 18, 20, and 22 are connected [whose first network 16 is] like a Local Area Network (LAN). Workstations 17, 18, 20, and 22 may be what kind containing the computer or Apple Computer Macintosh of the IBM personal computer compatible device and the Unix base of computers.

[0060] Moreover, a digital process copying machine / printer 24, facsimile apparatus 28, and a printer 32 (a device, business office machine) are connected to the network 16. Devices 24, 28, and 32 are called a machine or a monitor-ed device. Moreover, you may decide to use the device of other classes containing all the devices explained below as the above-mentioned machine or a monitor-ed device. Moreover, the facsimile server (not shown) may be connected to the network 16, and the facsimile server may have a telephone, ISDN (service integrated digital network), or cable splicing.

[0061] moreover, the thing for which a digital process copying machine / printer 24, facsimile apparatus 28, and a printer 32 are connected to the network 16 -- in addition, these devices may include the connection to the telephone line, a conventional ISDN circuit, and/or the conventional cable circuits 26, 30, and 34, respectively. A business office machine or the business devices 24, 28, and 32 communicate with the remote monitor, diagnosis, and control station which are the Internet course through a network 16, or are also called a monitor device by a direct telephone, ISDN, or cable splicing so that it may explain below.

[0062] The Internet is shown by the reference mark 10 in drawing 1. The Internet 10 contains the computer and router which were connected to mutual [which are shown by 12A-12I / two or more]. The approach of communicating through the Internet is learned through the RFC document obtained from NIC.DDN.MIL or NISC.SRI.COM by FTP. About the communication link relevant to TCP/IP,

"TCP/IP illustrated, "Vol.1, The Protocols, by Stevens, from Addison-Wesley Publishing Company, and 1994 have explanation, and the description to which it corresponds in these books is used here as reference, for example.

[0063] In drawing 1, a fire wall 14 is connected between the Internet 10 and a network 16. A fire wall is a device which enables only the permitted computer to access a network or other computers through the Internet. Fire walls are known, and a commercial device and/or software, and have SunScreen of Sun Microsystems, Inc. as the example. Similarly, the fire wall 50 is connected between the Internet 10 and a network 52, and the fire wall 40 is connected between the Internet 10 and a workstation 42.

[0064] A network 52 is the conventional network and includes two or more workstations 56, 62, 68, and 74. It is possible that these workstations 56, 62, 68, and 74 exist in the section from which it differs in a firm like a marketing section, a manufacturing department, a design engineering section, and a customer service section. In addition to the workstation connected through a network 52, the workstation 42 by which direct continuation is not carried out to a network 52 also exists. The information on the database stored in a disk 46 can be directly shared between the workstation linked to a network 52 by using the suitable code and suitable protocol on the Internet.

[0065] Moreover, the database of a disk 46 may be accessed to a workstation 42 through the telephone line, an ISDN circuit, or a cable circuit including the direct continuation to the telephone line, an ISDN circuit, and/or the cable circuit 44. The cable circuit used by this invention can be realized using the cable generally used, in order to transmit a television program. A cable circuit can offer high-speed communication of the digital data generally used by computer etc., and can realize it using the cable of the class of all requests.

[0066] Information on the business office machines 24, 28, and 32 may be made to be stored in one or more databases stored in disks 46, 54, 58, 64, 70, and 76. Each of customer service, marketing, manufacture, and an engineering section may be made to have the database of these selves, and may be made to share one or more databases. Each of the disk used since a database is stored is nonvolatile memory like a hard disk or an optical disk.

[0067] You may decide to replace with this and to store a database in all the kinds containing a solid-state and/or a semi-conductor memory device of storage device. For example, in the disk 70, the disk 76 contains [the disk 64 / the disk 58] the customer service database further including the engineering database including the manufacture database including the marketing database. You may decide to replace with this and for disks 54 and 46 to store one or more databases.

[0068] moreover, the thing for which workstations 56, 62, 68, 74, and 42 are connected to the Internet 10 -- in addition, these workstations may also include connection with the telephone line, an ISDN circuit, or the cable circuits 60, 66, 72, 80, and 44. The monitor of this connection is carried out, and it is diagnosed, and offers the positive connection to/or the machine currently controlled, and is used between connection mode (connection-mode) communication links. When not operating moreover normally [one] of the Internet, the telephone line, an ISDN circuit, and the cable circuits, it can be used automatically because of other one communication link.

[0069] The function of this invention is performing connectionless mode (connectionless-mode) communication link (for example, Internet electronic mail) or transmission between a machine and a computer, in order to diagnose and control a machine. It may replace with this and the electronic mail transmitted may be made to realize using a connection mode (connection mode) communication link. The IBM Dictionary of Computing (1994) by George McDaniel defines it as transmitting the single unit of data to one or more destination Service Access Points from a source Service Access Point, without attaching connectionless mode transmission (connectionless-mode transmission), and establishing connection.

[0070] Moreover, it is defined as The IBM Dictionary of Computing being transmitting the unit of data to one or more destination Service Access Points through connection about connection mode transmission (connection-mode transmission) from a source Service Access Point. It is established in advance of data transmission, and connection is released after data transmission. The additional information about connection mode operation and connectionless mode operation is indicated by the

Handbook of Computer-Communications Standards, Vol.1, 2nd edition, by William Stallings, and 1990, and this is used here as reference.

[0071] In order to transmit data to another DTE from one DTE (Data Terminal Equipment), the identifier (unique identifier) of a proper or the address of a proper is prepared for each DTE. The identifier or the address of this proper can be used by both a connection mode communication link and connectionless mode communication link.

[0072] Drawing 2 is drawing showing the mechanical layout of the digital process copying machine / printer 24 shown in drawing 1. In drawing 2, the fan for scanners in 101, the polygon mirror for which 102 is used with a laser beam printer, and 103 show Ftheta lens used in order to make light from laser (not shown) parallel (collimate), respectively. It is the quenching lamp used in order that the sensor by which a reference mark 104 detects the light of a scanner, the lens with which 105 condenses the light from a scanner on a sensor 104, and 106 may eliminate the image on the photo conductor drum 132. 107 shows a corona discharge machine and 108 shows the developing roller.

[0073] The lamp used in order that a reference mark 109 may illuminate the document scanned is shown, and 110,111 and 112 show the mirror used since light is reflected towards a sensor 104 top. 113 is a drum mirror used since the light from the polygon mirror 102 is turned to the photo conductor drum 132 and it reflects. The 1st feed roller used in order that the fan used in order that a reference mark 114 may cool the electrification area of a digital process copying machine / printer 24, and 115 may feed paper to a form from the 1st form cassette 117, and 116 are manual paper feed tables. Similarly, 118 shows the 2nd feed roller used in order to feed paper to a form from the 2nd form cassette 119.

[0074] For a reference mark 120, as for a resist roller and 122, a relay roller and 121 are [an image concentration sensor and 123] imprint/separation corona units. A reference mark 124 is a cleaning unit, 125 is a vacuum fan, and, as for a conveyance belt and 127, 126 is [a pressure roller and 128] Laura Deguchi. A reference mark 129 is the Maine motor used since the heated roller used in order to fix a toner on a form, and 130 drive a ventilating fan and 131 drives a digital copier.

[0075] Drawing 3 is the block diagram showing the electronic component of the digital process copying machine / printer 24 shown in drawing 2. CPU160 is a microprocessor and functions as a system controller. Random access memory (RAM) 162 memorizes the information containing the operating parameter of a digital process copying machine which changes dynamically. A read only memory (ROM) 164 memorizes the program code used in order to move a digital process copying machine, and the information (data of a static condition) explaining the serial number of a part number and a copying machine, and a copying machine like a default parameter.

[0076] The multiport communication interface (I/F) 166 enables a digital process copying machine to communicate with an external device. A reference mark 168 expresses the telephone line, an ISDN circuit, or a cable circuit, and 170 expresses LAN (network). It will explain about the further information on the multiport communication interface 166, referring to drawing 4. The interface (I/F) controller 172 is used in order to connect a control panel 174 to a system bus 186. a control panel 174 -- a digital copy -- the on board and usually seeing I/O device -- containing -- a copy carbon button, copy number of sheets, and expansion/contraction, and deep/-- it has the key which controls the operation of a copying machine, such as being thin. Furthermore, a liquid crystal display may be made to be contained in a control panel 174, and can display the parameter and message of a digital process copying machine on a user by it.

[0077] The storage interface (I/F) 176 connects various storage devices to a system bus 186. The replaceable flash memory 178 and a disk 182 are contained in these storage devices by the conventional EEPROM. A disk 182 contains a hard disk, an optical disk, and/or a floppy disk drive. The connection 180 which enables it to connect an additional memory device to a digital process copying machine is connected to the storage interface 176.

[0078] A flash memory 178 is used in order to memorize the half-static data (semi-static state data) which describes the parameter of the digital copier rarely changed over the life of a copying machine. Such a parameter includes the option and configuration of a digital process copying machine. The option interface (I/F) 184 makes it possible to connect the hardware of an addition like an external interface to a

digital process copying machine. A clock / timer 187 is used also in order to measure elapsed time, while being used in order to continue acquiring time information.

[0079] On the left-hand side of drawing 3, each part which constitutes a digital process copying machine is shown. A reference mark 202 shows a sorter and contains the sensor and actuator which are used in order that a sorter 202 may sort the output of a digital process copying machine. A duplexer (duplexer) 200 enables activation of multiple operation in a digital process copying machine, and contains a conventional sensor and a conventional actuator. The digital process copying machine enables it to use the form tray which holds many sheets in a digital process copying machine including the mass tray unit 198. The mass tray unit 198 contains a conventional sensor and a conventional actuator.

[0080] The feed controller 196 is used in order to control the operation which conveys a form in the digital copy inside of a plane, while feeding a form to a digital process copying machine. A scanner 194 is used in order to scan an image and to input into a digital process copying machine, and it contains the conventional components for scanning, such as the light source and a mirror. Furthermore, in order that a scanner sensor like a home-position sensor may judge with a scanner being in a home position, it is used, and a scanner sensor like a lamp thermistor is used in order to ensure suitable operation of a scanning lamp.

[0081] The printer / imager 192 which prints the output of a digital process copying machine are formed, and it contains a laser printing mechanism, a conventional toner sensor, and a conventional image concentration sensor. An elevated-temperature roller is used for an anchorage device, since it fuses and fixes a toner on a page, it is not used, and it contains the thermistor and oil sensor which guarantee that an outlet sensor and an anchorage device do not overheat. Furthermore, the unit interface 188 for options is used in order to connect other components which can be added to the sorter / collator, or the digital process copying machine of the component of the option of a digital process copying machine, for example, a class which and is different. [a class] [automatic feeding]

[0082] Drawing 4 is drawing showing the detail of the multiport communication interface 166. A digital process copying machine can communicate with an external device through the LAN interface 230 connected to the centronics interface 220 which receives or transmits the information printed, the cable modem unit 221 which makes high-speed connection by the cable circuit, the SCSI interface 222, the conventional telephone interface 224 connected to telephone-line 168A, the ISDN interface 226 connected to ISDN circuit 168B, the RS-232 interface 228, and LAN170. The single device connected to a Local Area Network and the telephone line is marketed from Megahertz, and is known as an Ethernet modem.

[0083] CPU, other microprocessors, or a circuit performs a monitor process, and carries out the monitor of the condition of each sensor of a digital process copying machine, and performs a sequence process, and performs instruction code required for control and actuation of a digital process copying machine. Furthermore, a centralization control process is performed, all the operation of a digital process copying machine is controlled, a communication process is performed, and the communication link with high external device connected to the digital process copying machine and dependability is guaranteed.

[0084] A system control process is controlled while carrying out the monitor of the data in the dynamic condition of memorizing in the volatility or nonvolatile memory like static condition memory like ROM164 of drawing 3, a flash memory 178 and half-static memory like a disk 182 or RAM162, a flash memory, or a disk 182. Furthermore, you may decide to memorize the data of a static condition to equipments other than ROM164 like the nonvolatile memory containing either a flash memory 178 or the disk 182.

[0085] Although the detailed matter mentioned above is described about a digital process copying machine, this invention can be applied equally to other business office machine or device, for example, analog copying machine, facsimile apparatus, scanner, printer, facsimile server, or other business office machines. Furthermore, this invention performs mechanical operation like the measuring system which contains gas, water, or the amount system of electrometers including the machine of other classes which operate using connection mode or connectionless mode communication, and an electronic mail, an automatic vending machine, or an automobile, it is required to carry out a monitor and all the devices of

the others which perform the function of arbitration etc. are contained. It is also possible to use it in order to carry out the monitor of the general purpose computer whose this inventions are a monitor and/or a device controlled in addition to carrying out the monitor of the machine and computer of the special purpose, and to control it and to diagnose it.

[0086] Drawing 5 is drawing by which a different device and a different subsystem were connected to the Internet 10 and in which showing the alternative system of this invention. In addition, although it must not necessarily have each of these devices or a subsystem as a part of invention, each component or subsystem shown in drawing 5 is a part of invention. [what kind of] Furthermore, you may decide to connect the component shown in drawing 1 to the Internet 10 shown in drawing 5.

[0087] The fire wall 250 is connected to intranet 252 in drawing 5. One of the computer connected to intranet 252 or the devices is the service machine 254, and the database 256 with which the service machine 254 may be memorized in a database format is connected to the implication or the database 256. a database 256 includes the statistical information of the component of hysteresis, performance, a malfunction and operation, failure or a setup, and the device by which a monitor is carried out, or an option device -- all -- others -- information is included.

[0088] The service machine 254 may be realized as a device or a computer, and it requests transmission of data to a monitor-ed device, or requests that remote control and/or a diagnostic test are performed on a monitor-ed device. Although you may realize as what kind of kind of a device, as for the service machine 254, it is desirable to realize using a computerized device like a general purpose computer.

[0089] Another subsystem shown in drawing 5 contains the printer 262 connected to a fire wall 258, intranet 260, and it. Although the separate general purpose computer connected between intranets 260 (or computer network of a different class) does not exist in this subsystem, the function to transmit and receive the electronic mail message by the printer 262 (and similarly based on a copying machine 286) is performed by the circuit carried in the printer 262, a microprocessor, or all other kinds of hardware or it was contained in the printer 262.

[0090] The subsystem of an alternative-class includes use of Internet Service Provider 264. Internet Service Provider 264 may be what kind including the firm on the commerce of known, such as America Online, Netcom, CompuServe, Nifty-serve, and the Internet service provider Erols, of Internet Service Provider. In this subsystem, a computer 266 is connected to Internet Service Provider 264 through a modem.

[0091] As an example of a modem In a telephone-line modem, a cable modem, an ISDN (service synthesis digital communication network) circuit, or ADSL (unsymmetrical digital subscriber line (asymmetric digital subscriber line)) The wire of the class of arbitration like the modem used The modem to be used, the modem which uses a Frame Relay communication link (frame relay communication), digital one of all or an analog modem, a wireless modem like a radio frequency modem, an optical-fiber modem, or an infrared light wave There is a device to be used. Furthermore, the business office device 268 is connected to a computer 266. the machine of a different class like all the devices of the others which replace with the business office device 268 (and all devices of the others shown in drawing 5), and are explained a digital process copying machine, all kinds of electrical machinery and apparatus, a security system, a utility meter like the electrical and electric equipment, water, and a gas utility meter, or here -- a monitor -- or you may make it controlled

[0092] Moreover, the fire wall 270 is connected to the network 274 in drawing 5. A network 274 may be realized as all kinds like an Ethernet network of a computer network. The networking software which can be used in order to control a network contains the networking software of all requests containing the software of marketing by the novel company or Microsoft Corp. When you wish, you may decide to realize a network 274 as the Internet.

[0093] The computer 272 connected to a network 274 may be used in order to generate the use report of every month of the device connected to the report in which the problem generated in various machines which may be used in order to acquire information from the business office device 278, and are connected to the network is shown, or the network 274. In the gestalt of this operation, the computer 276 is connected between the business office device 278 and the network 274. This computer 276 transmits a

suitable command, data, or all other information to the business office device 278 while receiving electronic mail communication from a network 274.

[0094] Although it explained that the business office device 278 was connected to a computer 276, you may decide to realize the communication link between the business office device 278 and a computer 276 by using the wire including use of the optical connection which is not necessarily made and minded radio frequency connection and infrared connection, or an optical fiber with which wye yard connection is demanded between the business office device 278 and a computer 276, or a wireless method.

Similarly, each of the various networks and intranets which are shown in drawing 5 may be established by using the approach of all requests including leading establishment of a wireless network like a radio frequency network.

[0095] The radio described here is Bluetooth of extension code and worldwide website www.bluetooth.com. It may be established by using a broadband spectrum technique including the technique which uses a frequency-hopping technique (frequency hopping techniques) like the frequency-hopping wireless network (frequency hopping wireless network) currently indicated by Specification. In addition, the above-mentioned reference is applied here as reference.

[0096] Another subsystem shown in drawing 5 contains the computer 282 and copying machine 286 which are connected to a fire wall 280, intranet 284, and intranet 284, respectively. A computer 282 may be used in order to be used in order to generate a report, and to request a diagnostic procedure or a control procedure. These diagnoses and control procedures may be performed about all the devices of the others used by all devices or drawing 5 of the others shown in a copying machine 286 or drawing 5.

Drawing 5 shows two or more fire walls. It is the device of an option although a fire wall is desirable.

Therefore, you may carry out to operating this invention, without using a fire wall, when you wish.

[0097] Drawing 6 is drawing showing the device 300 connected to the typical electronic mail switching system (E-mail exchangesystem) containing components 302, 304, 306, 308, 310, 312, 314, 316, and 318. You may realize by the conventional approach and these are quoted from drawing 28 .1 of Stevens mentioned above. A device 300 may be which device described here, and a user terminal 302 may correspond to the computer of the gap [like / the computer 276 shown in drawing 5] to illustrate.

[0098] Although it shows a user terminal 302 that drawing 6 is a transmitting person, a dispatch function and an arrival-of-the-mail function may be made reverse in drawing 6 . Furthermore, when you wish, there is not necessarily the need that a user exists in a terminal. The user agent 304 is connected to a user terminal 302. The popular user agent of the Unix version contains MH, Berkeley Mail, Elm, and Mush. The user agent 304 puts these messages transmitted on a queue (queue) 306, when the electronic mail message transmitted is created and wished. The mail transmitted is transmitted to a message transfer agent (MTA:message transfer agent) 308. General MTA of a Unix system is Sendmail. Generally, message transfer agents 308 and 312 exchange communication using TCP (Transfer Communication Protocol) connection, TCP/IP (Internet Protocol) connection, or a protocol.

[0099] In addition, although communication between message transfer agents 308 and 312 may be performed on the Internet, it may be carried out by being on connection of the class of arbitration which contains a Local Area Network, a wide area network, and/or all network connections like intranet as a substitute. Furthermore, it is also possible to use connection of all requests among message transfer agents 308 and 312.

[0100] Finally the electronic mail message from a message transfer agent 312 is transmitted to a user terminal 318 while it is memorized by the user mail box 314 which achieves the function of a receiving terminal and is transmitted to the user agent 316.

[0101] TCP connection offers connection mode transmission. However, direct continuation is not usually established between the user terminal 302 of a transmitting side, and the user terminal 318 of a receiving side. Thus, transmission of an electronic mail message may be considered to be a connectionless mode communication link when reference is made between two users or between two terminals. However, when taking the transfer between MTA into consideration, a communication link is usually a connection mode communication link.

[0102] Since the Internet is an accessible network, it is not necessarily taken into consideration by many

people or organizations about safety. Therefore, the message transmitted on the Internet should be enciphered in order to make the message secret. It is marketed while the code mechanism is known, and you may decide to use them by this invention. For example, crypt() which is C library function can come to hand from Sun Microcomputers as an object for Unix operating systems. Moreover, other codes and decryption routines are marketed while they are known, and you may decide to use this by this invention.

[0103] You may decide to replace with the general configuration of drawing 6 and to use a user terminal and the single computer which functions as a message transfer agent further. A device 300 is connected to the computer 301 containing a message transfer agent 308 as shown in drawing 7 R> 7. When you wish, other components of the transmitting side of drawing 6 including the user agent 304 and the queue 306 of e-mail transmitted may decide to be contained in the computer 301 of drawing 7.

[0104] Drawing 8 shows the alternative-implementation which transmits e-mail, and is based on drawing 28 .3 of Stevens. Drawing 8 shows the electronic mail system which has a relay system (relay system) at each end. The configuration of drawing 8 enables one system to function as an e-mail hub in a certain organization. In drawing 8 , four MTA is connected between two user agents 304 and 316. Such MTA contains local MTA322, relay MTA 328, relay MTA 332, and local MTA340. The most general protocol used for a mail message is SMTP (Simple MailTransfer Protocol).

[0105] Although you may decide to use the mail protocol of all requests, in this invention, you may decide to use SMTP. In drawing 8 , 320 shows a transmitting-side host and the transmitting-side host 320 contains a user terminal 302, the user agent 304, and local MTA322. It connects with the transmitting-side host 320, or a device 300 is replaced with it, and may be made to be contained in the transmitting-side host 320. Other local MTA contains local MTA 324 and 326. The mail which is transmitted and which is mailed and received may be put in by the queue of the mail queue 330 of relay MTA 328. A message is transmitted through the TCP connection 310. The TCP connection 310 may be the Internet and may be all other kinds of network, or connection.

[0106] The transmitted message is stored in a mail queue 334, when it is received by relay MTA 332 and you wish. And e-mail is transmitted to the receiving-side host's 342 local MTA340. E-mail is put on one or more user mail boxes 314, is transmitted to the user agent 316 after that, and, finally may be made to be transmitted to a user terminal 318. When you wish, it is not required that a user should be in a terminal but it may be carried out to e-mail being transmitted without user interaction to a direct terminal. In other local MTA of a receiving side, they may have the mail box, user agent, and terminal of these selves including local MTA338 and local MTA336.

[0107] As various computers used by this invention containing the computers 266 and 276 of drawing 5 are shown in drawing 9 , they may be realized. Furthermore, when you wish, it can realize by the approach similar to the computer which shows every computer of an and also [it is used by this invention containing the service machine 254, the computer 272, and computer 282 of drawing 5] to drawing 9 . However, all the components shown in drawing 9 are not the need in each of these computers.

[0108] In drawing 9 , a computer 360 may be realized for CPU362 including CPU362 as a processor of the class of arbitration containing the microprocessor marketed from a firm like Intel, Motorola, Hitachi, and NEC. The wireless interface 366 which communicates with activity memory like RAM364 and the wireless device 368 is established. The wireless medium of arbitration like an electric wave or a light wave may be used for communication between the wireless interface 366 and the wireless device 368. An electric wave is realizable by using a frequency-hopping technique [like], although indicated by the broadband spectrum technique or Bluetooth Specification like a CDMA (Code Division Multiple Access) communication link.

[0109] Although ROM370 and the flash memory 371 are formed, you may decide to replace with in addition to a flash memory 371, and to use what other kinds like EPROM or EEPROM of nonvolatile memory. The keyboard 374 and the mouse 376 are connected to the input controller 372. Serial interface 378 is connected to the serial device 380. Furthermore, a parallel interface 382 is connected to a parallel device 384, the Universal-Serial-Bus (USB) interface 386 is connected to the Universal-Serial-Bus

(USB) device 388, and the IEEE1394 device 400 generally called the fire wire (firewire) device connected to the IEEE1394 interface 398 is formed further.

[0110] Various components of a computer 360 are connected by the system bus 390. A disk controller 396 is connected to the floppy disk (FD) drive 394 and the hard disk (HD) drive 392. The communication link controller 406 makes it possible for a computer 360 to communicate with other computers, or to transmit an electronic mail message for example, on the telephone line 402 or a network 404. The I/O (input/output) controller 408 is connected to a printer 410 and the hard disk (HD) drive 412 by using for example, a SCSI (Small Computer System Interface) bus. Moreover, although the display controller 416 is connected to CRT (Cathode Ray Tube) 414, you may decide to use what kind of an and also [a liquid crystal display a light emitting diode display, a plasma display, etc. are included] of display.

[0111] Drawing 10 shows the software object contained in a computer 360, and various objects like a module. A computer 360 is connected to the mail server 430 to which transmission and reception of e-mail are performed. Even if a mail server 430 is located in Internet Service Provider 264 of drawing 5 and it is arranged in a network, it may be owned by the firm which owns the computer 360 and may be further located in the interior of a computer 360.

[0112] The electronic mail processor 432 is used in order to control transmission and reception of an electronic mail message. the electronic mail processor 432 is realized by what kind of request or the known approach -- you may have -- moreover, Outlook Express of Microsoft Corp. or GroupWise of a novel company -- although based on the electronic mail program of marketing [like], when you wish, you may decide to use the electronic mail program of other arbitration. As a specific implementation, an electronic mail system accesses an email server, in order to search an electronic mail from a server using POP3 (Post Office Protocol: Post Office Protocol) and to transmit an electronic mail using SMTP (Simple Mail Transfer Protocol: simple mail transfer protocol), but when you wish, the protocol of other arbitration may be used for it.

[0113] When a computer 360 uses an operating system like a Unix operating system, as for a computer, it usually has an IP address and the built-in e-mail system. Therefore, there is no need of using a mail server 430 in such a system. Registry 434 includes various information on a system, and is Windows. 95, Windows 98, and/or Windows It is possible to realize by the approach the same as that of the registry of NT or similar. The reception mail information (incoming mail information) 436 is available in order to memorize reception mail (incoming mail).

[0114] Furthermore, when you wish, reception mail information 436 may be mounted in order to memorize a POP3 location, and may memorize the file information about a received electronic mail. The transmitting mail information (outgoing mail information) 438 includes the information about SMTP and file information of transmitting mail (outgoing mail). A device driver 440, for example, a printer driver, a scanner driver, or other drivers may be used in order to communicate with a device 442, although a device 442 may be what kind of device -- information -- and it will be required or information or a control signal will be transmitted there. A device driver 440 is mounted in order to change the signal from a device 442 into the command or signal transmitted to the electronic mail processor 432, while changing the command or signal from the electronic mail processor 432 into the signal transmitted to a device 442.

[0115] It seems that it replaces with this, and you may hardly have responsibility while the electronic mail processor 432 may perform more processing functions and has programming with a simpler device driver 440. Furthermore, as long as suitable communication facility and the control function of a device 442 are performed using an electronic mail message, you may decide to use the implementation of what kind of other software.

[0116] The example of the more detailed implementation of the device driver 440 of drawing 10 is shown in drawing 11. The device driver 440 contains the device functional support module 454 which can be mounted in order to perform the function of the former of a device driver, and/or a request. Moreover, the device driver 440 contains remote control and a diagnostic module 452. When you wish, remoteness and a diagnostic module 452 may be mounted in order to perform a part or all control,

and/or diagnostic functions. Control and/or a diagnostic function are indicated in a related patent and patent application, and as mentioned above, they are used as reference.

[0117] By mounting remote control and a diagnostic module 452 in a device driver 440, it is possible by being able to reduce the cost of a device 442 and reducing the amount of memory of a device 442 like DRAM (Dynamic Random Access Memory) or a flash memory to lose the resource and function of a device 442, or to make it decrease (fall). Since it is also possible to use the hardware resources of a computer 360 instead of constituting additional hardware and including in a device 442 when you wish, it is possible to reduce cost in this way.

[0118] Various information containing log information and error information may decide for a database including device data 456 to memorize by using the hardware and data, or database management software of what kind of request. Furthermore, it is possible to decrease the software in a device 442 by making the function performed by the device driver 440 including the function performed by remote control, the diagnostic module 452, and the device functional support module 454 increase. When you wish, you may decide to mount these two software modules in one software module. Furthermore, you may decide to remove the software which takes use record of a device from the device itself, and to put into a device driver 440.

[0119] Drawing 12 is drawing showing the example of the electronic mail message used by this invention. In drawing 12 , - of 1st line the 7th line is a part of header of an electronic mail. As for each header field, the colon and the field value continue including the identifier. RFC (Request For Comments)822 specifies a format and interpretation of the header field, and is used as reference. It quite usually comes out and the field of the header shown in drawing 12 is obvious.

[0120] The 2nd line shows the date to which the electronic mail was transmitted, and the 3rd line shows the identifier related with an e-mail address (service center), and the 1st line shows the transmitting origin of an electronic mail, and, as for the 5th line, shows [the 4th line shows the destination where an electronic mail is transmitted, and] the subject of an electronic mail message further. The 6th line shows the version of MIME used by attachment encoding. MIME is used in order to transmit a binary file in an electronic mail message, and it allows only an ASCII character.

[0121] MIME makes it possible to change binary code into an ASCII-character train. Then, an ASCII-character train is changed at the suitable time, and is returned to an original binary file. Using MIME encoding such is known well. The 7th line shows the one or more contents fields (content field) like the class of text, the die length of a message, and the information on other the requests of all.

[0122] Furthermore, that to which an electronic mail message is also called the envelope used for distribution of a message transfer agent is included. An envelope may be specified by SMTP command like "mailfrom" and "RCPT 2." The further information about an envelope is described to the detail by RFC821, and it is used here as reference. The 3rd PERT of an electronic mail message is a message body which is the contents of the message. The body is characterized as Rhine of an ASCII text by RFC822. In drawing 12 , the body is carried out for whether being ** in - of 9th line the 18th line.

[0123] The attached file 460 as shown in drawing 13 may exist in the electronic mail message. The attached file 460 of drawing 13 is an executable file (executable file) which enables a user to perform the programming code contained in a file. It is the known function of an electronic mail message to attach the file containing an executable file to an electronic mail message.

[0124] Drawing 14 is drawing showing the typical screen display of the computer which shows the electronic mail message of drawing 12 while executing the electronic mail program. They are displayed in a suitable format, making it not show a user various encoding information, in case it is displayed like drawing 14 . The section about an attachment is located in the direction under a display 470. The message currently displayed in drawing 14 shows the executable file "MAINTENANCE.EXE" as an attached file.

[0125] As explained in the body or the message of an electronic mail, an attached file performs specific test of the printer connected, collection of the information on the printer connected, and record of the information on a printer that the printer connected is controlled or connected, by performing an attached file. Generally, an attached file is performed by "double-clicking" on an attachment. [click / "clicking" /

or] You may decide to perform by replacing with this, and saving an attachment as a separate file, and using the available suitable command in an operating system. Furthermore, you may decide to use the approach of other the requests of all in order to perform an attached file.

[0126] Drawing 15 is a flow chart which shows the process which receives the electronic mail message finally used, in order to transmit to the device to which information like the data based on the gestalt of the 1st operation, the control command, or the diagnostic command concerning this invention is connected. This approach can be performed using hardware and a software configuration which can perform by other hardware and/or software of a class, and were mentioned above, or the desired class was computerized. In the gestalt of operation of drawing 15, an electronic mail message is received by the approach of all the former or a request.

[0127] And an electronic mail message is made to perform desired operation by manual action by the user. In drawing 15, a computer receives a received electronic mail message (incoming E-mail message) after a start (S490). In step S492, a user opens an electronic mail message according to the demand of an electronic mail program which operates on a user's computer, and he requests a user to perform an attached file while the message body of an electronic mail message displays an instruction in step S494.

[0128] Step S494 corresponds to the display of drawing 14. In order to perform desired operation, drawing 14 is drawing showing how a user should perform an attached file, while a message shows the purpose of the transmitting origin of an electronic mail message, or an electronic mail message to a user, in order to perform desired operation. You may decide to replace with this and to display the message of other requests to a user. Attached file MAINTENANCE.EXE opts for the operation performed.

[0129] Step S496 judges whether the user "clicked" the attached file. By this, an attached file will be performed. For example, an attached file is double-clicked, an attached file is saved, and the alternative-approach for performing the attached file of performing a file using the command of an operating system may be performed, and an attached file may be performed by what kind of other approaches. After a user makes activation of an attached file start, a flow progresses to step S498 which performs an attached file.

[0130] In the suitable gestalt of this invention, a command is transmitted to a device driver by the attached file. In step S500, a device driver receives a command from the attachment under activation, and transmits to the device to which a suitable command and information are connected. In step S502, operation directed by the attached file is performed by the device. Such operation may be the operation of the class of arbitration including either the operation and the control function which were indicated in either the above-mentioned patent which carries out relation, and patent application, a data request or data manipulation. The typical operation performed with a device transmits the information relevant to the operation or failure generated within a device including remote control and diagnostic operation, an operating parameter is used with a device, or a device memorizes.

[0131] Although it was made to relate to use of a device driver and the process of drawing 15 R> 5 was explained, a device driver is the convenient label of the routine which controls the device connected, and can also use what kind of the others which control the device connected of software instead of a device driver. For example, the electronic mail program itself may enable it to transmit a command and/or data to the device connected directly. The device connected may be any device mentioned above.

[0132] One method of performing a program code is using a graphic pointing device like the mouse connected to the computer, and is an approach a user pushes a carbon button, a user placing a pointer on the object showing a file (for example, maintenance.exe which is an attached file), and doing the pointing of the file after that.

[0133] Drawing 16 is a flow chart which shows the gestalt of the alternative-operation which receives an electronic mail message, and detects automatically that a received electronic mail message is used for communication with the device to which the program which operates a computer or there is connected here. Thus, the need that a user performs an attached file can also be abolished in the gestalt of this operation.

[0134] In drawing 16, a received electronic mail message (Inca MINGU electronic mail message:

incoming E-mail message) is received in step S520 after a start. In step S522, it detects that a program, for example, an electronic mail processing program, has a received electronic mail message. Detection of a received electronic mail may be carried out by performing by the approach of what kind of request. Current and a commercial electronic mail program have the function for detecting a received electronic mail message automatically, and may carry out it to using such a conventional automatic detection function.

[0135] Furthermore, in Unix, when the specific directory "/var/mai" which includes a file with a user name receives the file corresponding to a received electronic mail message, the size of this file changes, and a file appears or more files appear, a system can detect that there is a received electronic mail message. In step S524, the program under activation analyzes an electronic mail and it judges whether an electronic mail is a thing for the device connected. Such analysis is performed by judging whether a predetermined code exists in the position in an electronic mail message.

[0136] For example, you may be in the subject line of an electronic mail message, and the location of such a code may be a special code which appears in a message body, and may be a code including the user definition field in a header which appears in a message header, or may be in a message envelope. A received electronic mail message may have the address transmitted to the computer connected to a device, and such a message is directly used for processing, without being displayed to a user. In step S526, analysis of the analyzed electronic mail is performed and it judges whether an electronic mail is a thing for the thing for a user, or the device connected.

[0137] When judged with it being an electronic mail for the device connected, a flow progresses to step S528 which performs operation according to the electronic mail for a device. The operation performed here may include either of the operation including operation which is indicated in a related patent and patent application described beforehand. For example, activation of all the kinds generally performed by migration of a scanning head or a printer head or the device in question of mechanical action, activation of operation including transmission of a parameter, etc. are included.

[0138] When judged with the attached electronic mail being a thing for a user in step S526 (For example, it is not used in order for an electronic mail not to have relation in the device connected and to control or supervise the device connected), and a flow It makes it possible to progress to step S530 from step S526, for a user to peruse an electronic mail, and to reply and transmit, or to perform the function of other the requests of all on this electronic mail. It judges whether control progresses to step S532 from step S530 and step S528, and has the further electronic mail message. When a message furthermore exists, a flow returns to step S524. When a message does not exist, the process of step S532 is ended.

[0139] In addition to receiving the electronic mail message which carries out the monitor of the device connected, and is used/or in order to control, this invention includes transmitting an electronic mail message including the information on the device connected to the computer. This invention prepares the data for transmitting by electronic mail message like the information shown in drawing 19 mentioned later - drawing 22.

[0140] Drawing 17 is a flow chart which transmits an electronic mail message and which shows the gestalt of the 1st operation. In step S540, the message transmitted is prepared after a start. In order to prepare the message transmitted, the data which are a part of message are acquired or generated. This data may be obtained by questioning the device connected to the computer, is replaced with it, and may already be memorized by the computer.

[0141] Moreover, when you wish, data are explained by related application, and may be made and obtained. Although it is prepared as an electronic mail message has a format of the conventional electronic mail system containing the envelope, the header, and the body of an electronic mail message which was mentioned above, you may decide to use a format of all requests for an electronic mail message.

[0142] And in step S542, the electronic mail message is transmitted to an out mail object (outmail object). An out mail object is the software object or routine which operates within a computer, and performs transmission processing out of a computer. In the Microsoft Windows environment, transmission is performed through use of Messaging Application Programming Interface (MAPI). MAPI

does not require that all the codes used in order to permit interaction with a message-sending system and to transmit a message to a programmer should be written.

[0143] When a message is transmitted to an out mail object (MAPI client) by setting MAPI of Windows to a specified use program like the Outlook Express electronic mail program of Microsoft Corp., it is possible to automate message transmission. About the detail about mounting and use of MAPI, it is clarified in the books "Inside MAPI" by Irving De la Cruz and Les Thalaer which were published in 1996, from the Microsoft press, and it is used here as reference. Any function about the use of MAPI clarified in these books may be carried out to using in order to realize this invention which uses an MAPI client. In step S544, an electronic mail message is transmitted out of a client (computer) by using an out mail object preferably.

[0144] The out mail object was described as what is Windows MAPI. However, you may decide to use all other out mail objects in order to support electronic mail message transmission. Moreover, although it is not said that a software object must be used, you may decide to use the code of a request of the arbitration which supports transmission of an out mail object.

[0145] The alternative-approach for transmitting the electronic mail message by this invention is shown in the flow chart of drawing 18. Although performing in the Unix environment is desirable, the approach of drawing 18 can be used even if it is other what kind of software or operating system environments, as long as a desired step is performed. In drawing 18, after a start, it prepares so that a message can be transmitted in step S560. This step is used in order to acquire the information transmitted. Moreover, this step may be made to perform by step S540 of drawing 17, and the similar approach when you wish.

[0146] In step S562, an e-mail output file (mail output file) is prepared. It contains the message prepared at step S560. In step S564, the e-mail output file which are one or more files and is obtained, i.e., the suitable e-mail output file of a number for an operating system, is memorized in the transmitting mail directory (outgoing mail directory) called an e-mail spool directory (mail spool directory) in Unix. Although this directory in Unix is located in /var/spool/mqueue, it may be made to use all other suitable directories. If one or more suitable files are memorized in a desired location, step S566 will be performed and the electronic mail message corresponding to one or more memorized files will be transmitted. And the process of drawing 18 is completed.

[0147] Drawing 19 is drawing showing DS 580 including device information. this uses an electronic mail format preferably -- the computer from a device -- and/or, it is the information transmitted outside a network from a computer. Drawing 19 shows the information for transmitting the interest of the device to which the instantiation-format and the request of arbitration are formatted or connected.

[0148] In DS 580 shown in drawing 19, the field 584 contains the device type which shows information like whether the devices of the field 586 are a scanner, a digital process copying machine, a printer, facsimile apparatus, and a multifunction device about a device model in a device ID as for the field 582, or all other information about the class of device. It shows the function of a device like the class of output tray (for example, sorter), or the field 588 shows whether a device has automatic feeding equipment, for example so that it may be explained by related patent application and a related patent, while it shows the function of a device like for example, an option device. Furthermore, information about the operation of a device may also be made to be transmitted.

[0149] The information shown in drawing 19 may be used about a printer, a copying machine, or a multifunction device to the device of a class with which different information differs. As an example of the information which can be put in by device information DS 580 A page or the total number (field 590) of a paper jam, the total number of the performed job (field 592), [applicable only to the total number (field 594), color printer or device of the printed page] The total number (field 596) of the printed color page, the average pagination for every job (field 598), The number of jobs after the last report (field 600), the pagination after the last report (field 602), The number of color pages after the last report (field 604), the number of jams after the last report (field 606), The information about the job of the past 20 containing the time stamp about when these jobs occurred (field 608), And when you wish, there is information (field 610) about the abnormality job (for example, job which was not ended

according to the convention or the standard procedure) of the past 20 containing the time stamp about when these job or abnormalities occurred etc.

[0150] This invention is available in order to create the report for offering the information or other information about the status on the device currently supervised. Information on a device may be made to be transmitted to the computer of another firm or the same firm through the Internet, or is replaced with this; and may be made to be transmitted as an electronic mail in the Local Area Network of a firm, or an in-house network like a wide area network. The information on a machine that the electronic mail message prepared and transmitted according to instruction of this invention is received may decide to be transmitted to a device like the service machine 254 shown in drawing 5.

[0151] And the service machine 254 directs that a specific problem exists while being able to notify it to a suitable entity like the service center of a device manufacturing company like a service center to which the service center of for example, a third person service center, a copying machine, or a printer manufacturing company or others was permitted, or what kind of other entities. Such a notice may be performed by directions of a voice-told message, or the approach of what kind of other requests with an electronic mail by telephoning those who have used the facsimile transmission by direct computer connection.

[0152] Drawing 20 is drawing showing the log 650 of the data collected from various machines, and it shows the problem of a machine. The log contains the location of a machine with a problem, and a machine, the special problem of a machine, and notified ID of an entity. Information received and transmitted according to the log of drawing 20 may be made to act according to one instruction of the applications by which cross-reference was carried out. for example, which computer shown in drawing 5 -- even if it is, you may decide to generate a log and to memorize/or a log.

[0153] Drawing 21 is drawing showing the example of the data 669 collected through the inquiry. The inquiry in the example of drawing 21 may be used in order to show the total number of the machine by which the special model (for example, FT6650) was installed, the number of these devices that have the sorter, the average copy number of sheets for every job for every machine, and the average use count of a sorter. Moreover, you may make it put into the information on other the requests of all by the status report. In which computer of drawing 5, a status report may be generated and may be carried out to/or memorizing.

[0154] Drawing 22 is drawing showing the monthly use report 670. This monthly use report 670 is generated about the computer network which has four printers and three copying machines which have been arranged on a network. Although it is desirable to use an electronic mail message and to be generated according to instruction of this invention, the monthly use report 670 may be made to be generated using the technique currently explained by application by which cross-reference was carried out, when wishing to have the monthly use report 670. The computer 272 of drawing 5 can generate the information which offers the report of drawing 22, other reports, and the function of this invention, or it can be memorized in the computer 272 of drawing 5.

[0155] It is also possible to replace with this, to generate such a report for the computer 282 of drawing 5, and to use it/or in order to memorize. The report of such a class makes it possible to perform an in-house monitor by the machine connected to a network or intranet. Moreover, the computer holding the information about the machine connected to a network and statistics may be network [a part of]. A network may be the whole region of a Local Area Network, a wide area network, or the Internet. It can replace with it and a report can also be generated about the machine in one of networks 260,274 or 284 by the service machine 254 which memorizes the suitable information for a database 256.

[0156] In the suitable implementation, this invention has the device to which a computer is connected, and separate housing using a computer. Moreover it can mount this invention cheaply to the facility which already has the existing computer in order to perform desired processing since new hardware cost is reduced by this, mounting of this invention is attained by such arrangement, without performing hardware-modification to a device.

[0157] However, when you wish, it may be made to mount this invention by in addition to the independent computer connected to the device, replacing with, carrying out a monitor and including the

suitable processing for/or the device currently controlled, and a data memory storage function. Furthermore, this invention is also applicable to existing equipment like especially a print server. It connects with a computer network, and a print server receives a request, performs print operation, and distributes such print operation to the suitable printing device connected to a print server.

[0158] This application is based in relation to various concepts which are used for this application as reference and indicated in the patent and patent application by which cross-reference was carried out. This patent application means including association of the various descriptions of the gestalt of each operation indicated not only in invention clarified in related application but in this the application of each applied and related, and a function. Thus, the concept which could apply easily the description indicated in one of related application or patents to the concept indicated in this invention, and was indicated in other one or more applications is applicable to the concept clarified by other applications. Furthermore, to compensate for the communication in other directions currently performed by using the different communicate mode like the communicate mode indicated in one or the related patent, and patent application of other communicate modes indicated here, you may decide to use an electronic mail message for either dispatch or arrival.

[0159] This invention is realizable with convenience sufficient by using the conventional general purpose digital computer or conventional microprocessor programmed according to instruction of this specification so that clearly for this contractor of computer technology, suitable software coding can be easily prepared by the programmer which became skillful based on instruction of this indication so that clearly for this contractor of software skill -- it is. Moreover, this invention is realizable preparing an application specialization integrated circuit (application specific integrated circuit) or by connecting the suitable network of the conventional components circuit mutually so that clearly for this contractor of the technique.

[0160] This invention supplies a program to a computer and contains a computer program product like a record medium including an instruction which can perform the process of this invention. Although not necessarily limited to the following, all kinds of medium suitable for memorizing all the kinds containing a floppy disk, an optical disk, CD-ROM, and a magneto-optic disk of disk, ROM-RAM-EPROM-EEPROM and the MAG, an optical card, or an electronic instruction is contained in a record medium.

[0161] By taking into consideration the instruction mentioned above, it is clear that it is possible to perform various design changes about this invention. Therefore, within the limits of each claim in a claim, if it is possible to carry out this invention by the option, it should be understood as what was indicated especially here.

[0162]

[Effect of the Invention] As explained above, according to the message-processing approach concerning this invention, the message-sending approach, a Message Handling system, and the message-sending system Communication is realizable using an electronic mail message. A message is received from the device connected to the computer which receives an electronic mail message. It becomes possible to be processed with the device, and to be transmitted to the device, and to transmit further the information generated with the device through the computer etc.

[Translation done.]

*** NOTICES ***

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1. This document has been translated by computer. So the translation may not reflect the original precisely.
2. **** shows the word which can not be translated.
3. In the drawings, any words are not translated.

CLAIMS

[Claim(s)]

[Claim 1] The message-processing approach characterized by to include the judgment process which judges whether it is a thing for the device by which said electronic mail message which received is connected to said computer to be the 1st receiving process which receives an electronic mail message by computer, and the 1st transmitting process which transmits communication to said device from said computer when judged with said electronic mail message being a thing for said device at said judgment process.

[Claim 2] Said judgment process is the message-processing approach according to claim 1 characterized by judging whether it is that to which whether said electronic mail message which received being a thing for said device, and said electronic mail message which received make the user of said computer the last addressee.

[Claim 3] Furthermore, said judgment process is the message-processing approach according to claim 1 being [it / what is judged] characterized by whether for said electronic mail message which the user who read said displayed message received to be a thing for said device including the display process as which said electronic mail message displays the message which shows said user including the information transmitted to said device after said 1st receiving process.

[Claim 4] Furthermore, the message-processing approach according to claim 3 characterized by including the 1st activation process which executes the command which performs said 1st transmitting process.

[Claim 5] Said 1st activation process is the message-processing approach according to claim 4 characterized by performing the program code of the file attached to said electronic mail message by manual action by said user.

[Claim 6] Said 1st activation process is the message-processing approach according to claim 5 characterized by performing the program code of said file by carrying out the pointing of the object which expresses said file using a pointing device and a graphical user interface.

[Claim 7] Said 1st activation process is the message-processing approach according to claim 6 characterized by performing said program code by carrying out the depression of the carbon button, carrying out the pointing of said object showing said file.

[Claim 8] Said 1st receiving process is the message-processing approach according to claim 1 characterized by receiving an Internet electronic mail message.

[Claim 9] It is the message-processing approach according to claim 4 which said 1st activation process transmits information to the device driver which operates within said computer; and is characterized by performing said 1st transmitting process by using said device driver.

[Claim 10] Furthermore, the message-processing approach according to claim 1 characterized by including the 2nd receiving process which receives the communication transmitted from said computer with said device, and the 2nd transmitting process which transmits a parameter to said computer from said device according to the communication which received with said device.

[Claim 11] Furthermore, the message-processing approach according to claim 10 characterized by

including the 2nd activation process which performs mechanical action with said device according to the communication received with said device.

[Claim 12] Said judgment process is the message-processing approach according to claim 1 characterized by judging automatically that said electronic mail message is a thing for said device by detecting the description of said electronic mail message.

[Claim 13] Said judgment process is the message-processing approach according to claim 12 characterized by judging automatically that said electronic mail message is a thing for said device by detecting the code in said electronic mail message.

[Claim 14] Said judgment process is the message-processing approach according to claim 13 characterized by judging automatically that said electronic mail message is a thing for said device by detecting said code in the subject of said electronic mail message.

[Claim 15] Said judgment process is the message-processing approach according to claim 13 characterized by judging automatically that said electronic mail message is a thing for said device by detecting said code in the body of said electronic mail message.

[Claim 16] Said judgment process is the message-processing approach according to claim 12 characterized by performing according to reception of the Inca MINGU electronic mail message.

[Claim 17] Said judgment process is the message-processing approach according to claim 16 characterized by performing according to reception of the Inca MINGU electronic mail message detected by carrying out the monitor of the existence of the file memorized in the predetermined storage location in memory.

[Claim 18] The message-sending approach characterized by including the 1st information transmitting process which transmits information to a computer from a device, the 1st down stream processing which processes said information by the device driver in said computer, and the message-sending process to which said computer transmits the electronic mail message corresponding to said information.

[Claim 19] Furthermore, said message-sending process is the message-sending approach according to claim 18 characterized by transmitting the electronic mail message corresponding to said information processed by said MAPI including the 2nd information transmitting process which transmits said information to MAPI (messaging application programming interface) of said computer from said device driver, and the 2nd down stream processing which processes said information by said MAPI.

[Claim 20] It is the message-sending approach according to claim 18 characterized by for said computer being a message transfer agent, for said 1st information transmitting process transmitting said information to said computer which is said message transfer agent directly from said device, and said message-sending process transmitting said electronic mail message from said computer which is said message transfer agent using TCP connection.

[Claim 21] Said message-sending process is the message-sending approach according to claim 18 characterized by using said file memorized by said e-mail spool directory, and transmitting the electronic mail message corresponding to said information including the creation process at which said 1st down stream processing creates the file corresponding to said information, and the write-in process which writes said file in the e-mail spool directory of said computer.

[Claim 22] It is the message-sending approach according to claim 21 characterized by writing the multiple files which said creation process and the write-in process created multiple files, and created in said e-mail spool directory, using for said message-sending process each of the multiple files memorized by said e-mail spool directory, and transmitting said electronic mail message.

[Claim 23] The 1st receiving means for connecting with a computer and receiving an electronic mail message, The judgment means for judging whether it is a thing for the device by which said received electronic mail message is connected to said computer, The Message Handling system characterized by having the 1st transmitting means for transmitting communication to said device from said computer when judged with said electronic mail message being a thing for said device with said judgment means.

[Claim 24] Said judgment means is a Message Handling system according to claim 23 characterized by judging whether it is that to which whether said received electronic mail message being a thing for said device and said received electronic mail message make the user of said computer the last addressee.

[Claim 25] Furthermore, it is the Message Handling system according to claim 23 to which it has a display means for displaying the message which shows said user that said electronic mail message includes the information transmitted to said device, and is characterized by said judgment means being what judges whether said electronic mail message by which the user who read said displayed message was received is a thing for said device.

[Claim 26] Furthermore, the Message Handling system according to claim 25 characterized by having the 1st activation means for executing the command which operates said 1st transmitting means.

[Claim 27] Said 1st activation means is a Message Handling system according to claim 26 characterized by performing the program code of the file attached to said electronic mail message by manual action by said user.

[Claim 28] Said 1st activation means is a Message Handling system according to claim 27 characterized by performing the program code of said file by carrying out the pointing of the object which expresses said file using a pointing device and a graphical user interface.

[Claim 29] Said 1st activation means is a Message Handling system according to claim 28 characterized by performing said program code by carrying out the depression of the carbon button, carrying out the pointing of the object showing said file.

[Claim 30] Said 1st receiving means is a Message Handling system according to claim 23 characterized by receiving an Internet electronic mail message.

[Claim 31] It is the Message Handling system according to claim 26 which said 1st activation means transmits information to the device driver which operates within said computer, and is characterized by said 1st transmitting means being what operates by using said device driver.

[Claim 32] Furthermore, the Message Handling system according to claim 23 characterized by having the 2nd receiving means for said device receiving the communication transmitted from said computer, and the 2nd transmitting means for transmitting a parameter to said computer from said device according to the communication received with said device.

[Claim 33] Furthermore, the Message Handling system according to claim 32 characterized by having the 2nd activation means for performing mechanical action with said device according to the communication received with said device.

[Claim 34] Said judgment means is a Message Handling system according to claim 23 characterized by judging automatically that said electronic mail message is a thing for said device by detecting the description of said electronic mail message.

[Claim 35] Said judgment means is a Message Handling system according to claim 34 characterized by judging automatically that said electronic mail message is a thing for said device by detecting the code in said electronic mail message.

[Claim 36] Said judgment means is a Message Handling system according to claim 35 characterized by judging automatically that said electronic mail message is a thing for said device by detecting said code in the subject of said electronic mail message.

[Claim 37] Said judgment means is a Message Handling system according to claim 35 characterized by judging automatically that said electronic mail message is a thing for said device by detecting said code in the body of said electronic mail message.

[Claim 38] Said judgment means is a Message Handling system according to claim 35 characterized by operating according to reception of the Inca MINGU electronic mail message.

[Claim 39] Said judgment means is a Message Handling system according to claim 38 characterized by operating according to reception of the Inca MINGU electronic mail message detected by carrying out the monitor of the existence of the file memorized in the predetermined storage location in memory.

[Claim 40] The message-sending system characterized by having the 1st information transmitting means for transmitting information to a computer from a device, the 1st processing means for processing said information by the device driver in said computer, and a message-sending means for transmitting the electronic mail message which supports said information by said computer.

[Claim 41] Furthermore, it is the message-sending system according to claim 40 which is equipped with the 2nd information transmitting means for transmitting said information to MAPI (messaging

application programming interface) of said computer from said device driver, and the 2nd processing means for processing said information by said MAPI, and is characterized by said message-sending means transmitting the electronic mail message corresponding to said information processed by said MAPI.

[Claim 42] It is the message-sending system according to claim 40 characterized by for said computer being a message transfer agent, for said 1st information transmitting means transmitting said information to said computer which is said message transfer agent directly from said device, and said message-sending means transmitting said electronic mail message from said computer which is said message transfer agent using TCP connection.

[Claim 43] It is the message-sending system according to claim 40 characterized by equipping said 1st processing means with the creation means for creating the file corresponding to said information, and the write-in means for writing said file in the e-mail spool directory of said computer, using for said message-sending means said file memorized by said e-mail spool directory, and transmitting the electronic mail message corresponding to said information.

[Claim 44] It is the message-sending system according to claim 43 characterized by writing the multiple files which said creation means and the write-in means created multiple files, and created in said e-mail spool directory, using for said message-sending means each of the multiple files memorized by said e-mail spool directory, and transmitting said electronic mail message.

[Translation done.]